ORDER NO. MD0502043C1
A6

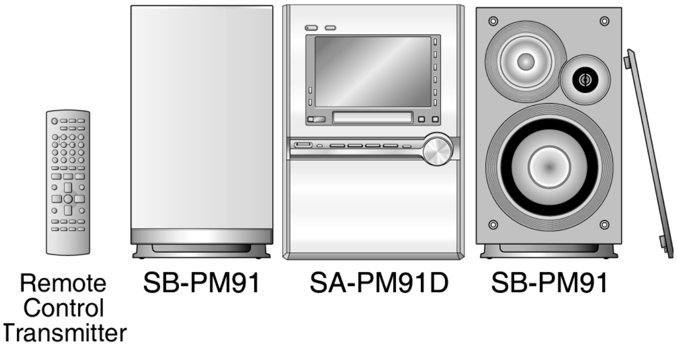
Service Manual

DVD Stereo System

SA-PM91DP
SA-PM91DPC

Colour

(S) ... Silver Type



Specification

n Amplifier Section

RMS Output Power Stereo mode (Both channel driven)	
10% Total harmonic distortion	
1 kHz, (Low channel)	40 W per channel (6Ω)
8 kHz, (High channel)	40 W per channel (6Ω)
Total RMS Stereo mode power	160 W
FTC Output Power Stereo mode (Both channel driven)	
10% Total harmonic distortion	
60 Hz - 3 kHz, (Low channel)	35 W per channel (6Ω)
3 kHz - 16 kHz, (High channel)	35 W per channel (6Ω)
Total RMS Stereo mode power	70 W per channel
Phone jack terminal	Stereo, 3.5 mm (1/8”) jack

n FM Tuner Section

Frequency range	87.9 - 107.9 MHz (200 kHz step) 87.5 - 108.0 MHz (100 kHz step)
Sensitivity	2.5 µV (IHF)
S/N 26 dB	2.2 µV
Antenna terminals	75 Ω (unbalance)
Preset stations	15

n AM Tuner Section

Frequency range	520 - 1710 kHz (10 kHz steps)
Sensitivity	
S/N 20 dB at 1000 kHz	560 µV/m
Preset stations	15

n Cassette Deck Section

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erase system	AC erase 100 kHz
Tape speed	4.8 cm/s (1-7/8 ips)
Overall frequency response (+3, -6 dB) at Deck Out	
Normal	35 Hz - 14 kHz
S/N ratio	50 dB (A weighted)
Wow and flutter	0.18% (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

n Disc Section

Disc played [8cm (3”) or 12 cm (5”)]

1. DVD-RAM (DVD-VR compatible, JPEG formatted disc)
2. DVD-Audio
3. DVD-Video
4. DVD-R (DVD-Video compatible)

Panasonic

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5. DVD-RW, +R, +RW
6. CD-Audio (CD-DA)
7. Video CD
8. SVCD (Conforming to IEC62107)
9. CD-R/CD-RW
(CD-DA, Video-CD, SVCD, MP3, WMA, JPEG formatted discs)
10. MP3/WMA*
- Compatible compression rates:
  MP3: between 32 kbps and 320 kbps
  WMA: between 48 kbps and 320 kbps

11. JPEG*
- Exif Ver 2.1 JPEG Baseline files
- Picture resolution:
  between 320 x 240 and 6144 x 4096 pixels
  (Sub sampling is 4:2:2 or 4:2:0)

12. HighMAT Level 2 (Audio and Image)
13. HDCD

* The total combined maximum number of recognizable audio and picture contents and groups: 4000 audio and picture contents and 400 groups.

Audio output	
Number of channels	2
Digital audio output	
Optical digital output	Optical terminal
Pick up	
Wavelength	
DVD	662 nm
CD	785 nm
Laser power	CLASS IIa/CLASS Ia (P) CLASS 2/CLASS 3a (PC)

n Video Section

Video system	NTSC
Composite video output	
Output level	1 Vp-p (75Ω)
Terminal	Pin jack (1 system)
S-Video output	
Y output level	1 Vp-p (75Ω)
C output level	0.286 Vp-p (75Ω) (NTSC)
Terminal	S terminal (1 system)
Component video output	(480P/ 480I)
Y output level	1 Vp-p (75Ω)
P_B output level	0.7 Vp-p (75Ω)
P_R output level	0.7 Vp-p (75Ω)
Terminal	Pin jack (Y: green, P_B: blue, P_R: red) (1 system)

n General

Power supply	AC 120, 60 Hz
Power consumption	150 W
Dimensions (W x H x D)	175 mm x 248 mm x 388 mm (6-7/8” x 9-3/4” x 15-9/32”)
Mass	5.7 kg (12.6 lbs)
Operating temperature range	+5°C to + 35°C (+41°F to +95°F)
Operating humidity range	5% to 90% RH (no condensation)
Power consumption in standby mode	0.4 W

n System

n System: SC-PM91DP-S	Music Center: SA-PM91DP-S Speaker: SB-PM91P-MJ
n System: SC-PM91DPC-S	Music Center: SA-PM91DPC-S Speaker: SB-PM91P-MJ

Notes :

1. Specifications are subject to change without notice.
   Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precautions

1.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, ensure that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, check for leakage current checks to prevent from being exposed to shock hazards.

(This “Safety Precaution” is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer’s recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Using an ohmmeter measure the resistance value, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1MΩ and 5.2Ω.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

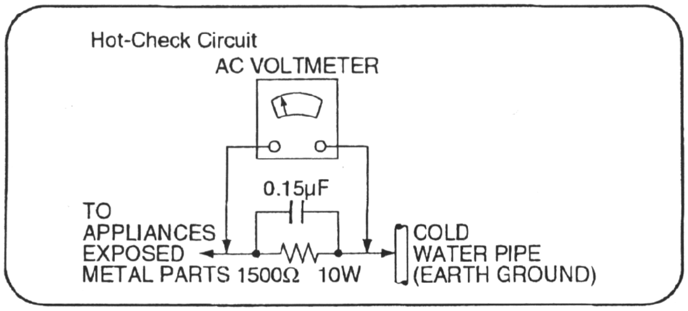

Hot-Check Circuit
AC VOLTMETER
0.15μF
TO APPLIANCES EXPOSED METAL PARTS
1500Ω 10W
COLD WATER PIPE (EARTH GROUND)

Fig. 1

1.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15μF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. should the measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and re-checked before it is returned to the customer.

1.1.3. Caution for fuse replacement

(For English)
CAUTION:
Replace with the same type fuse:
(Manufacturer: Littelfuse Inc., Type: 233 or F1, 2A 125V)

(For Canadian French)
ATTENTION:
Utiliser un fusible de rechange de même type:
(Fabricant: Littelfuse Inc., Type: 233 or F1, 2A 125V)

2 Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C5802, C5803, C5804, C5912, C5902, C5901, C5916, C5915, C5905, C5904, C2843 and C2824 through a 10 Ω, 1 W resistor to ground. DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

- Current consumption at AC 120 V, 60 Hz in NO SIGNAL mode should be ~300 mA.

3 Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are “shorted”, or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note :

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

4 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equiped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equiped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder remover device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   Caution

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize body motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are imporant for safety.
These parts are marked by ⚠ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

5 Handling the Lead-free Solder

5.1. About lead free solder (PbF)

Distinction of PbF P.C.B.:

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

6 Precaution of Laser Diode

CAUTION:

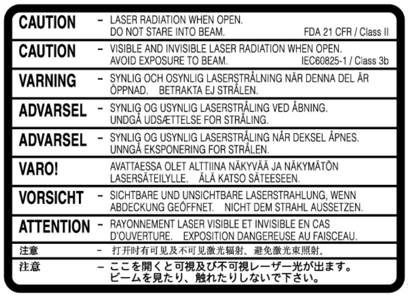
This unit utilizes a class 1 laser.

Invisible laser radiation is emitted from the optical pickup lens.

When the unit is turned on:

1. Do not look directly into the pick up lens.
2. Do not use optical instruments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pickup lens.
4. Do not disassemble the optical pick up unit.
5. If the optical pick up is replaced, use the manufacturer’s specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.



CAUTION	–	LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM.	FDA 21 CFR / Class II
CAUTION	–	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.	IEC60825-1 / Class 3b
VARNING	–	SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.	
ADVARSEL	–	SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.	
ADVARSEL	–	SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.	
VARO!		AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	
VORSICHT	–	SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	
ATTENTION	–	RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D’OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	
注意	–	打开时有可见及不可见激光辐射。避免激光束照射。	
注意	–	ここを開くと可視及び不可視レーザー光が出ます。 ビームを見たり、触れたりしないで下さい。	

(Inside of product)

7 Cautions to be taken when handling Optical Pickup

The laser diode used inside optical pickup could be destroyed due to static electricity as a potential difference is caused by electrostatic load discharged from clothes or human body. Handling the parts carefully to avoid electrostatic destruction during repair.

7.1. Handling Optical Pickup

1. Do not impact on optical pickup as the unit structurally uses an extremely precise technology.
2. Short-circuit the flexible cable of optical pickup remove from the circuit board using a short-circuit pin or clip in order to prevent laser diode from electrostatic destruction (Refer to Fig. 7.1 and Fig. 7.2)
3. Do not handle flexible cables forcibly as this may cause snapping. Handle the parts carefully (Refer to Fig. 7.1)
4. A new optical pickup is equipped with an anti-static flexible cable. After replacing and connecting to the flexible board, cut the anti-static flexible cable. (Refer to Fig. 7.1)

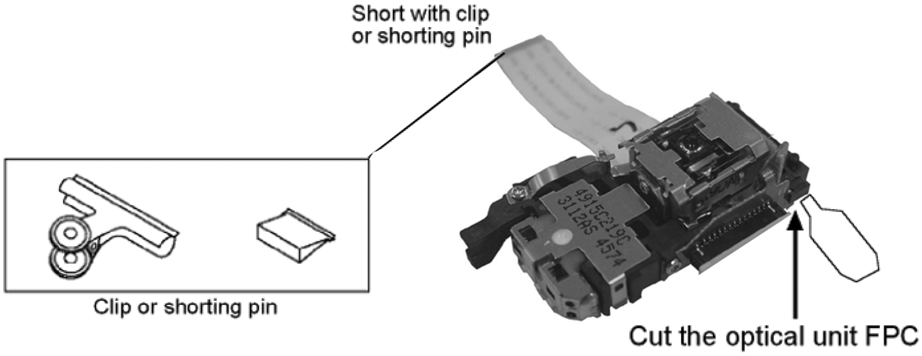


Fig. 7.1

7.2. Replacing Precautions for Optical Pickup Unit

DVD/CD Optical Pickup

The optical pickup by which part supply was carried out attaches the short clip to the flexible board for laser diode electrostatic discharge damage prevention. Please remove the short clip and be sure to check that the short land is open, before connecting. (Please remove solder, when the short land short-circuits.)

7.3. Grounding for Preventing Electrostatic Destruction

1. Human body grounding

   Use the anti-static wrist strap to discharge the static electricity accumulated in your body. (Refer to Fig. 7.2)
2. Work place grounding

   Place a conductive material (conductive sheet) or ironboard where optical pickup is placed. (Refer to Fig. 7.2)

Note :

Keep your clothes away from optical pickup as wrist strap does not release the static electricity charged in clothes.

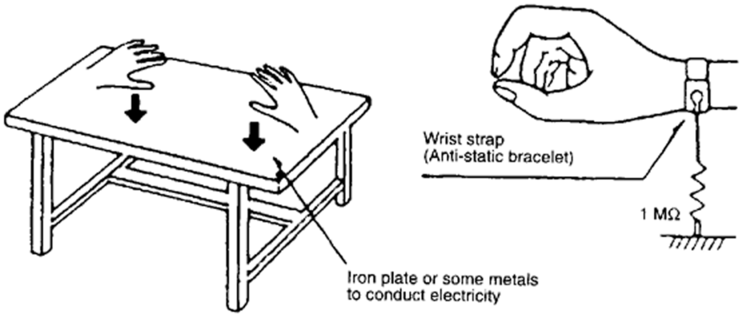
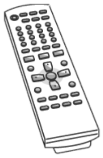


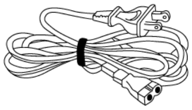
Fig. 7.2

8 Accessories

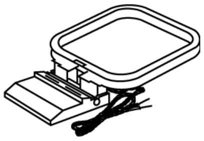
Note : Refer to Packaging Materials & Accessories Part List (Section 26.5) for part number.



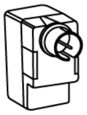
Remote
Control



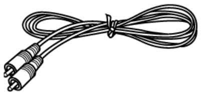
AC Power Cord



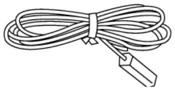
AM Loop Antenna



Antenna Plug



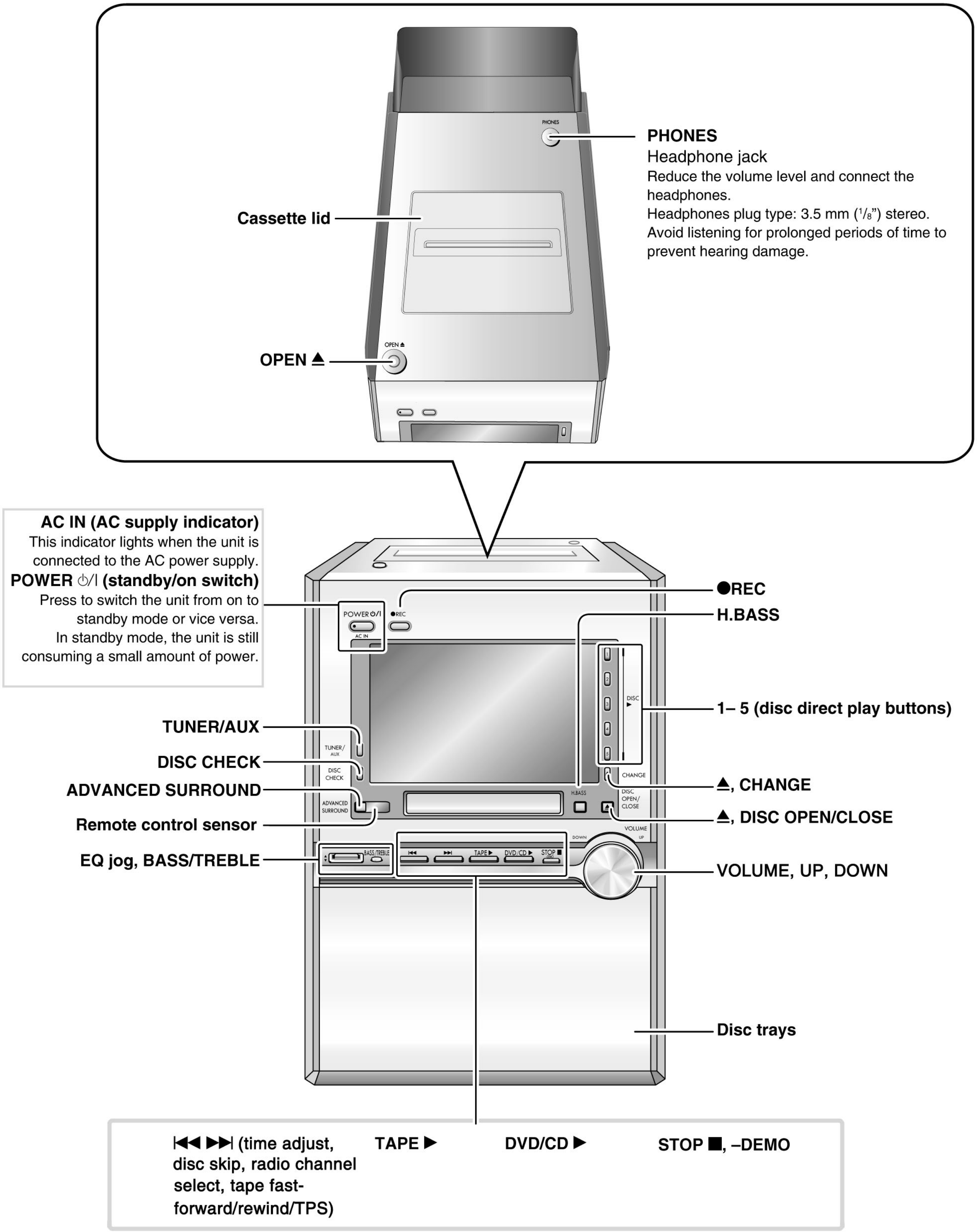
Video Cable



FM Indoor
Antenna

9 Operation Procedures

Main unit



PHONES
Headphone jack
Reduce the volume level and connect the headphones.
Headphones plug type: 3.5 mm (1/8") stereo.
Avoid listening for prolonged periods of time to prevent hearing damage.

Cassette lid

OPEN ≜

AC IN (AC supply indicator)
This indicator lights when the unit is connected to the AC power supply.

POWER ⏻/I (standby/on switch)
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.

TUNER/AUX

DISC CHECK

ADVANCED SURROUND

Remote control sensor

EQ jog, BASS/TREBLE

●REC

H.BASS

1– 5 (disc direct play buttons)

≜, CHANGE

≜, DISC OPEN/CLOSE

VOLUME, UP, DOWN

Disc trays

⏮ ⏭ (time adjust, disc skip, radio channel select, tape fast-forward/rewind/TPS)

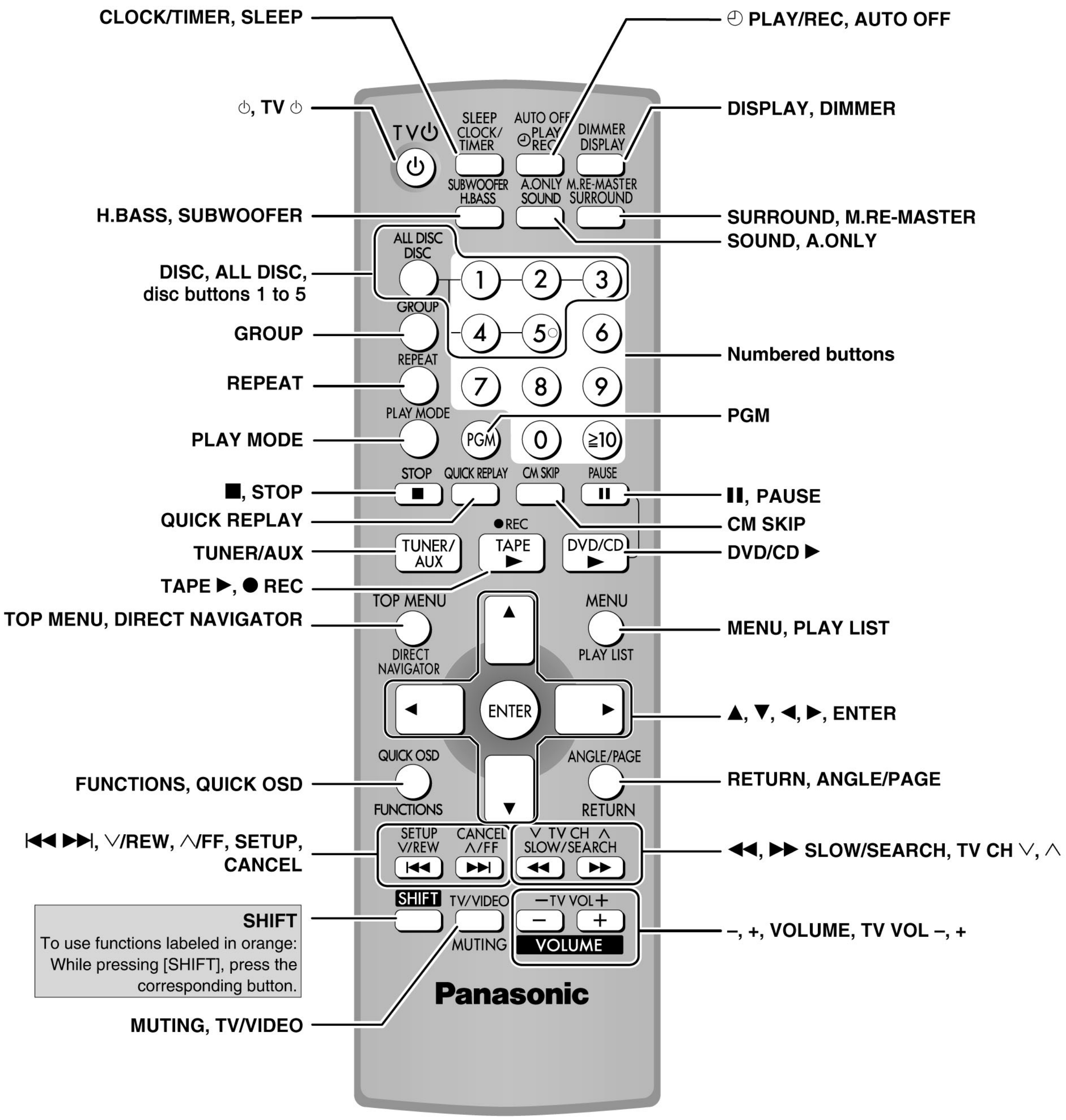
TAPE ▶

DVD/CD ▶

STOP ■, –DEMO

PHONES
OPEN ≜
POWER ⏻/I
AC IN
●REC
TUNER/AUX
DISC CHECK
ADVANCED SURROUND
DISC ▶
CHANGE
H.BASS
DISC OPEN/CLOSE
VOLUME
DOWN
UP
BASS/TREBLE
⏮
⏭
TAPE ▶
DVD/CD ▶
STOP ■

Remote control


CLOCK/TIMER, SLEEP
⏻, TV ⏻
H.BASS, SUBWOOFER
DISC, ALL DISC,
disc buttons 1 to 5
GROUP
REPEAT
PLAY MODE
■, STOP
QUICK REPLAY
TUNER/AUX
TAPE ▶, ● REC
TOP MENU, DIRECT NAVIGATOR
FUNCTIONS, QUICK OSD
⏮ ⏭, ∨/REW, ∧/FF, SETUP, CANCEL
SHIFT
MUTING, TV/VIDEO
◴ PLAY/REC, AUTO OFF
DISPLAY, DIMMER
SURROUND, M.RE-MASTER
SOUND, A.ONLY
Numbered buttons
PGM
❚❚, PAUSE
CM SKIP
DVD/CD ▶
MENU, PLAY LIST
▲, ▼, ◀, ▶, ENTER
RETURN, ANGLE/PAGE
◀◀, ▶▶ SLOW/SEARCH, TV CH ∨, ∧
–, +, VOLUME, TV VOL –, +
TV⏻
SLEEP CLOCK/ TIMER
AUTO OFF ◴PLAY REC
DIMMER DISPLAY
SUBWOOFER H.BASS
A.ONLY SOUND
M.RE-MASTER SURROUND
ALL DISC DISC
1 2 3 4 5 6 7 8 9 0 ≧10
GROUP
REPEAT
PLAY MODE
PGM
STOP
QUICK REPLAY
CM SKIP
PAUSE
●REC
TUNER/ AUX
TAPE ▶
DVD/CD ▶
TOP MENU
DIRECT NAVIGATOR
MENU
PLAY LIST
ENTER
QUICK OSD
FUNCTIONS
ANGLE/PAGE
RETURN
SETUP ∨/REW
CANCEL ∧/FF
∨ TV CH ∧ SLOW/SEARCH
SHIFT
TV/VIDEO
MUTING
−TV VOL+
VOLUME
Panasonic

SHIFT

To use functions labeled in orange: While pressing [SHIFT], press the corresponding button.

10 Disc Information

Discs that can be played

Disc	Logo	Indication in these operating instructions	Remarks	
DVD-RAM	DVD RAM RAM4.7	RAM	Recorded using Version 1.1 of the Video Recording Format (a unified video recording standard).	• Recorded with DVD-Video recorders, DVD-Video cameras, personal computers, etc. • Remove discs from their cartridges before use.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard.	• Recorded with Panasonic DVD-Video recorders. • To play JPEG files, select “Play as Data Disc” in Other Menu.
DVD-Audio	DVD AUDIO	DVD-A	—	
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select “Play as DVD-Video” in Other Menu.	
DVD-Video	DVD VIDEO DVD VIDEO	DVD-V	—	
DVD-R/ DVD-RW	DVD R R4.7 DVD RW		Discs recorded and finalized[1] on a DVD-Video recorder or DVD-Video camera are played as DVD-Video on this unit.	
+R (Video)/ +RW (Video)	—	DVD-V	Discs recorded and finalized[1] on a DVD-Video recorder or DVD-Video camera are played as DVD-Video on this unit. • Note that you cannot use some of the features described in these instructions with these discs, and some information may not be displayed correctly. This is due to the disc format and does not indicate a malfunction.	
Video CD	COMPACT disc DIGITAL VIDEO	VCD	—	
SVCD	COMPACT disc SUPER VIDEO		Conforming to IEC62107.	
CD	COMPACT disc DIGITAL AUDIO COMPACT disc DIGITAL AUDIO TEXT	CD	This unit is compatible with HDCD, but does not support Peak Extend function (a function which expands the dynamic range of high level signals). HDCD-encoded CDs sound better because they are encoded with 20 bits, compared with 16 bits for all other CDs. • During HDCD play, “HDCD” appears on the unit’s display.	
CD-R CD-RW	—	WMA MP3 JPEG CD VCD	• This unit can play CD-R/RW (audio recording disc) recorded with the formats on the left. Close the session or finalize[1] the disc after recording. • **HighMAT discs** WMA, MP3 or JPEG files only. To play without using the HighMAT function, select “Play as Data Disc” in Other Menu.	

[1] A process that allows play on compatible equipment.

- It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, SACD, Divx Video Discs and Photo CD, DVD-RAM that cannot be removed from its cartridge, 2.6-GB and 5.2-GB DVD-RAM, and “Chaoji VCD” available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

Playing DVDs and Video CDs

The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions (for example if the play time is not displayed or if a Video CD has menus). Read the disc’s instructions carefully.

■ Playing PAL system DVD-Audio

This unit converts PAL to NTSC for play. The picture is compressed to show it in its entirety, but this may cause it to be stretched vertically.

Tips for making WMA/MP3, CD text and JPEG discs

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- The order in which the tracks appear in the menus may differ from the order shown on your computer.

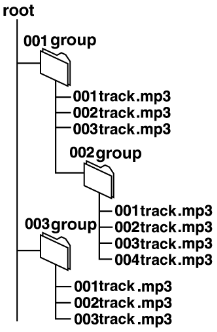
Naming folders and files

At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

Files must have the extension:

".WMA" or ".wma"
".MP3" or ".mp3"
".JPG", ".jpg", ".JPEG" or ".jpeg"

Example: MP3



WMA

- Noise may occur when playing WMA files.
- You cannot play WMA files that are copy protected.

MP3

- This unit is not compatible with ID3 tags.
- If you play an MP3 track that includes still picture data, it will take some time before the music itself starts playing and the elapsed time will not be displayed during this time. Even after the track starts, the correct play time will not be displayed.

JPEG

- To view JPEG files on this unit:
  —Take them on a digital camera that meets the DCF (Design rule for Camera File System) standard. Some digital cameras have functions that are not supported by the DCF standard like automatic picture rotation which may render a picture unviewable.
  —Do not alter the files in any way or save them under a different name.
- This unit cannot display moving pictures, Motion JPEG and other such formats, still pictures other than JPEG (i.e. TIFF) or play associated sound.

CD (CD text only)

When making your own CD text discs

The unit plays the tracks in the order you record them so you do not have to prefix the titles with numbers.

Manufactured under license from Dolby Laboratories.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

"DTS" and "DTS 2.0 + Digital Out" are trademarks of Digital Theater Systems, Inc.

HDCD® ,HDCD®, High Definition Compatible Digital® and Pacific Microsonics™ are either registered trademarks or trademarks of Pacific Microsonics, Inc. in the United States and/or other countries.

HDCD system manufactured under license from Pacific Microsonics, Inc. This product is covered by one or more of the following: In the USA: 5,479,168, 5,638,074, 5,640,161, 5,808,574, 5,838,274, 5,854,600, 5,864,311, 5,872,531, and in Australia: 669114, with other patents pending.

Apparatus Claims of U.S. Patent Nos. 4,631,603, 4,577,216, and 4,819,098, licensed for limited viewing uses only.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

HIGH MAT AUDIO•IMAGE

HighMAT and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

Designed for Windows Media™

11 About HighMAT

11.1. What's HighMAT?

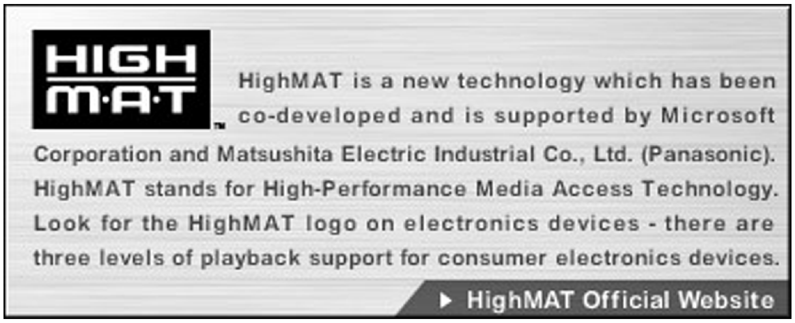
Consumers worldwide are using PCs to create their own collections of music, photos and even video by burning them onto CDs. But how these collections can be experienced across different devices can be confusing to navigate, time consuming to access for a DVD player, and be incomplete in terms of music information available to the customer.

HighMAT offers a solution to this growing consumer problem. HighMAT dramatically improves the digital media experience on consumer electronic devices by delivering a simple, standardized approach that allows consumers who have created personal collections of digital music, photography and video on their PC to:

>> Create a HighMAT CD or DVD which can be easily played back on consumer electronics devices such as CD and DVD players, and car stereos.

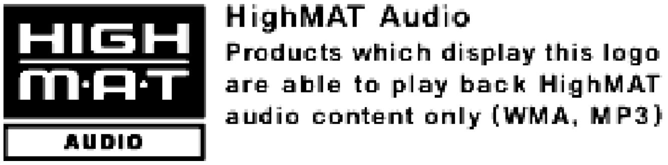
>> Move digital media files (using recordable media such as CD-R and CD-RW) between the PC and various playback devices such as CD and DVD players.

A new standard for creating personal media on consumer electronic devices, HighMAT enable easier and more seamless interoperability between Windows PCs and devices designed for your living room, or the car.



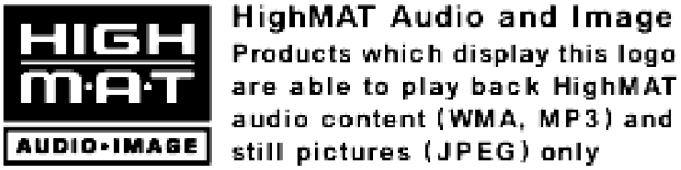
HighMAT is a new technology which has been co-developed and is supported by Microsoft Corporation and Matsushita Electric Industrial Co., Ltd. (Panasonic). HighMAT stands for High-Performance Media Access Technology. Look for the HighMAT logo on electronics devices - there are three levels of playback support for consumer electronics devices.

HIGH M·A·T™
▶ HighMAT Official Website



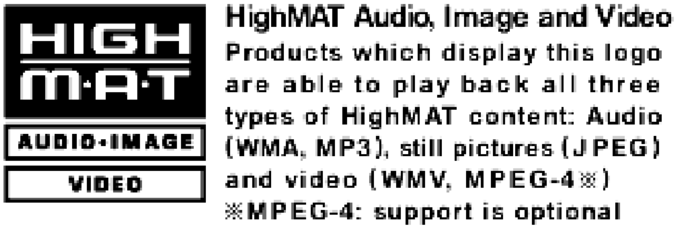
HIGH M·A·T
AUDIO

HighMAT Audio
Products which display this logo are able to play back HighMAT audio content only (WMA, MP3)



HIGH M·A·T
AUDIO•IMAGE

HighMAT Audio and Image
Products which display this logo are able to play back HighMAT audio content (WMA, MP3) and still pictures (JPEG) only



HIGH M·A·T
AUDIO•IMAGE
VIDEO

HighMAT Audio, Image and Video
Products which display this logo are able to play back all three types of HighMAT content: Audio (WMA, MP3), still pictures (JPEG) and video (WMV, MPEG-4※)
※MPEG-4: support is optional

11.2. Why take advantage of HighMAT?

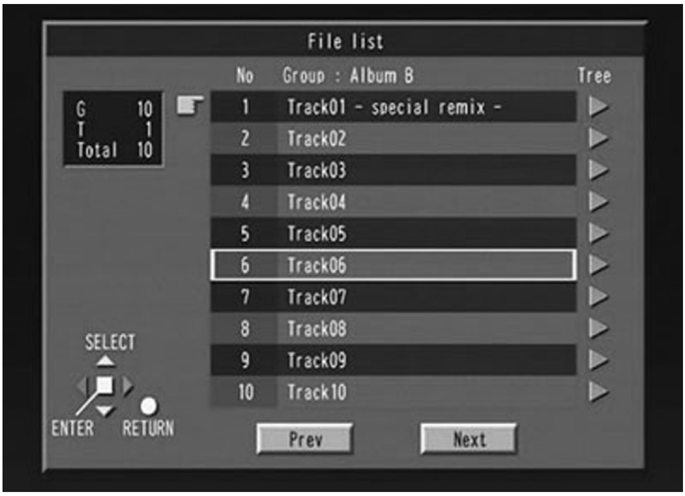
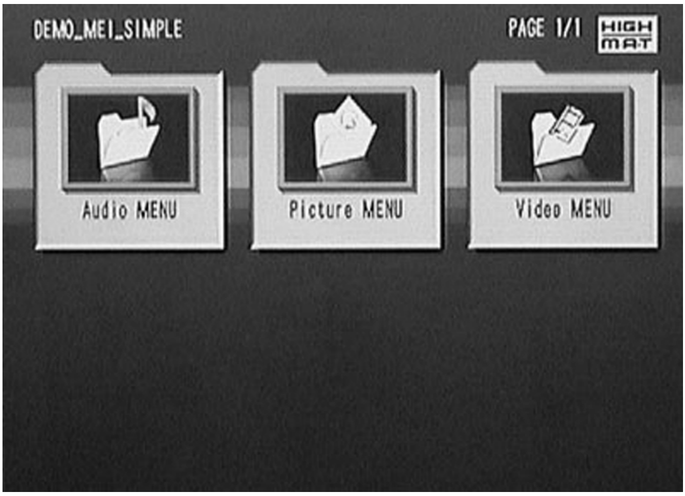
A Problem Defined:Today, when consumers create their own digital audio, video or photo collections on CD-R or other physical formats, there are numerous, inconsistent ways that devices read the data. For the consumer, the playback experience can be confusing:

- Many consumer electronics devices do not support playlists or advanced playback options such as the ability to access content by date or genre.
- The user interface for accessing the media and any associated information (including playlists, folders, music metadata and more) may vary between different devices.
- Large collections of music, videos or photos may take several minutes for a CD or DVD player to read.
- Discs may be unplayable because the compressed media format is not supported by the playback device or the disc layout is incompatible.

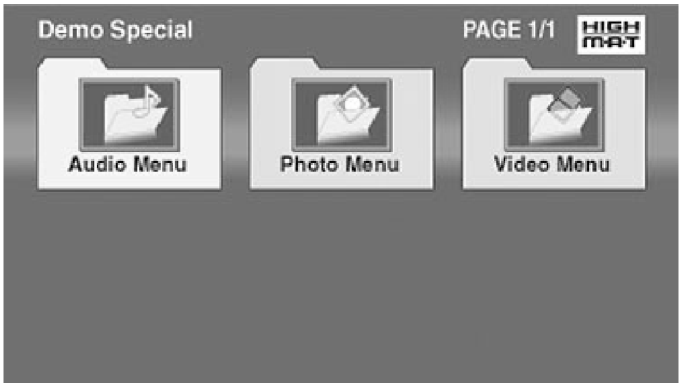
A Solution Created: HighMAT delivers a better digital media access experience by creating a standard approach for PCs to structure digital media on various physical formats and for playback devices to read the data.

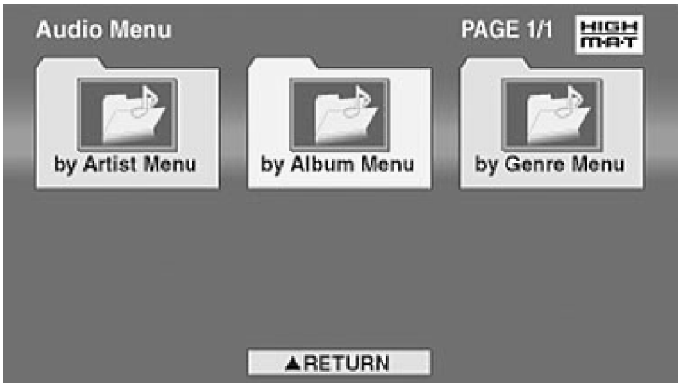
11.3. Benefits of HighMAT?

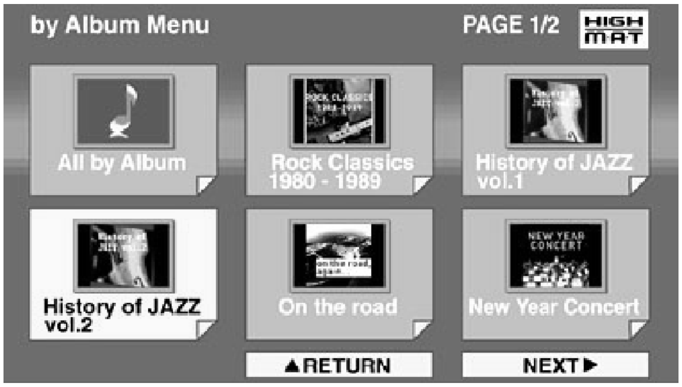
1 Creating a HighMAT CD makes it easier to navigate different types of media you want to burn onto a CD(Photos, Music).

Conventional	HighMAT
Even though DVD player is CD-R/RW compatible, the inconsistent ways that various DVD players can read the music or photos files often leads to a confusing and inconsistant playback experince.	HighMAT compatible products play content back with consistent interface. This includes products which are JPEG compatible products without HighMAT support.
 File list No Group : Album B Tree G 10 T 1 Total 10 1 Track01 - special remix - 2 Track02 3 Track03 4 Track04 5 Track05 6 Track06 7 Track07 8 Track08 9 Track09 10 Track10 	 DEMO_MEI_SIMPLE PAGE 1/1 HIGH MAT Audio MENU Picture MENU Video MENU

2 Eliminates compatibility issues and delivers better more consistent access to more music information like artist, song name, genre and photo information (metadata) as well as provide faster access to large amounts of music and photo files burned on CDs.

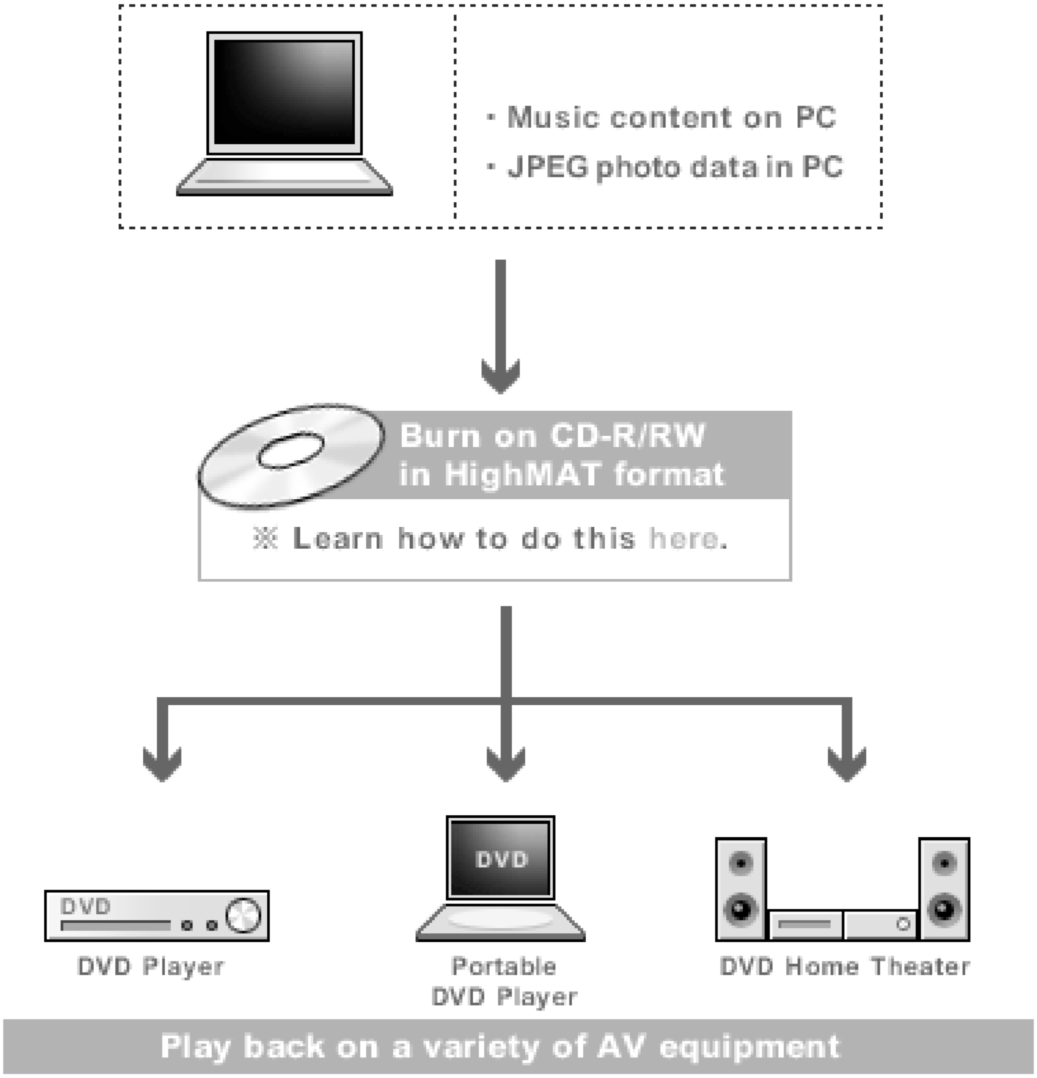

Demo Special
PAGE 1/1
HIGH MAT
Audio Menu
Photo Menu
Video Menu


Audio Menu
PAGE 1/1
HIGH MAT
by Artist Menu
by Album Menu
by Genre Menu
▲RETURN


by Album Menu
PAGE 1/2
HIGH MAT
All by Album
Rock Classics 1980 - 1989
History of JAZZ vol.1
History of JAZZ vol.2
On the road
New Year Concert
▲RETURN
NEXT ▶

Easy navigation to access disc contents →

3 HighMAT CDs can also work on other players.


· Music content on PC
· JPEG photo data in PC
Burn on CD-R/RW in HighMAT format
※ Learn how to do this here.
DVD
DVD Player
DVD
Portable DVD Player
DVD Home Theater
Play back on a variety of AV equipment

HighMAT is now available for CD Burning and in Leading DVD PlayersHighMAT is a new technology that is now available in leading software and consumer electronic devices to dramatically improve the digital media experience when you create homemade CDsHighMAT delivers a simple, standardized way for PC software and consumer electronics devices to talk to each other and work better together.

When you create your homemade CDs with software that supports HighMAT CD burning, and then play them back on a DVD player that supports HighMAT, you get better, easier navigation. You get folders you can access with a single click of your DVD player´s remote control. You can view important information about your music like full song names, artist titles, album names and genre. And you can get faster startup on your home entertainment device.

To enjoy the benefits of HighMAT, all you need is software that supports HighMAT for CD burning of music or photos, as well as a home entertainment device like a DVD player that supports HighMAT for playback. Always look for the HighMAT logo on your software or home entertainment device to ensure it supports the HighMAT experience.

12 Assembling and Disassembling.

“ATTENTION SERVICER”

Some chassis components maybe have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.
   Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

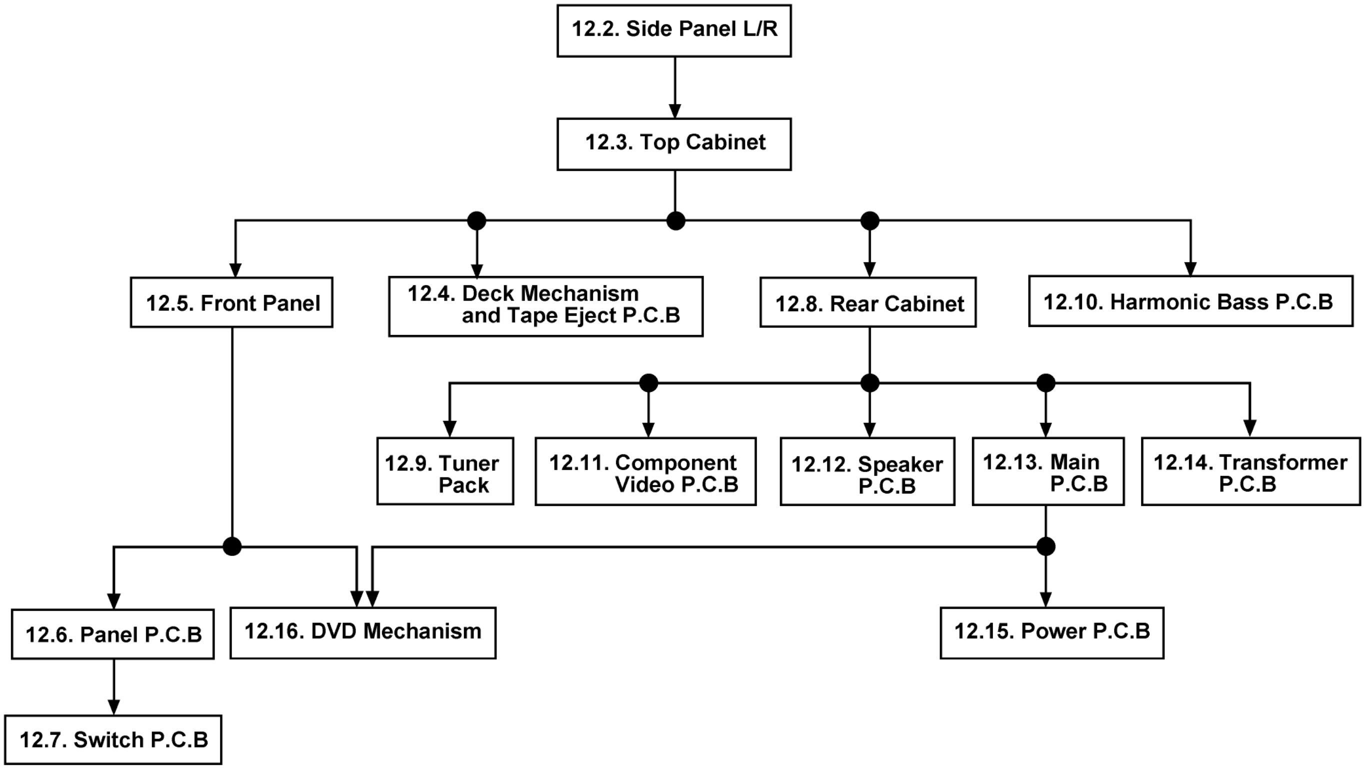
Warning:

This product uses a laser diode. Refer to “Precaution of Laser Diode”.

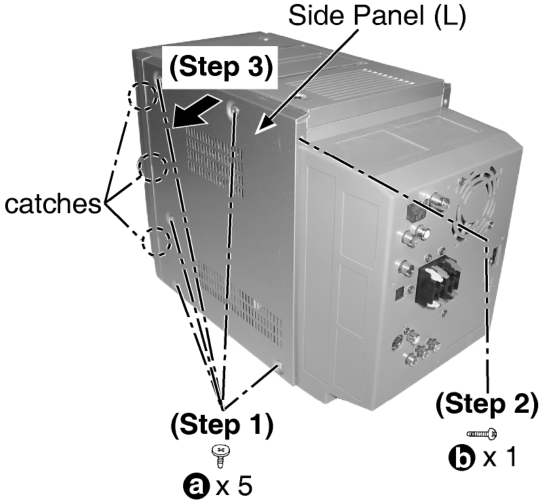
12.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.


12.2. Side Panel L/R
12.3. Top Cabinet
12.5. Front Panel
12.4. Deck Mechanism and Tape Eject P.C.B
12.8. Rear Cabinet
12.10. Harmonic Bass P.C.B
12.9. Tuner Pack
12.11. Component Video P.C.B
12.12. Speaker P.C.B
12.13. Main P.C.B
12.14. Transformer P.C.B
12.6. Panel P.C.B
12.16. DVD Mechanism
12.15. Power P.C.B
12.7. Switch P.C.B

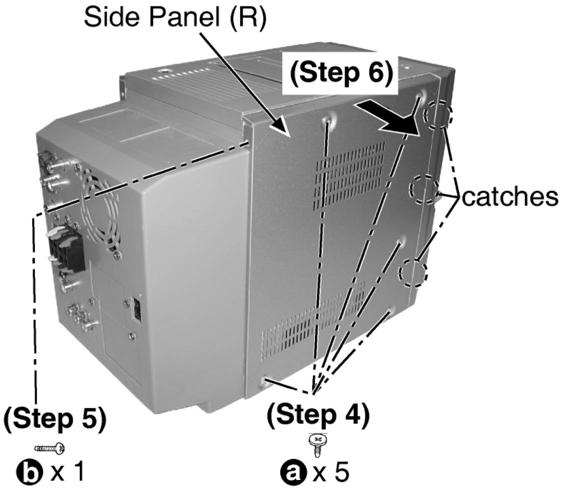
12.2. Disassembly of Side Panel (L) & (R)


Side Panel (L)
(Step 3)
catches
(Step 1)
a x 5
(Step 2)
b x 1

Step 1 : Remove 5 screws.

Step 2 : Remove 1 screw.

Step 3 : Remove the side panel (L) as arrow shown (Be careful of the catches).


Side Panel (R)
(Step 6)
catches
(Step 5)
b x 1
(Step 4)
a x 5

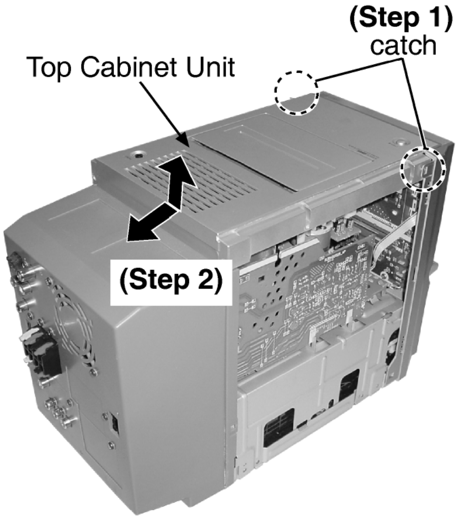
Step 4 : Remove 5 screws.

Step 5 : Remove 1 screw.

Step 6 : Remove the side panel (R) as arrow shown (Be careful of the catches).

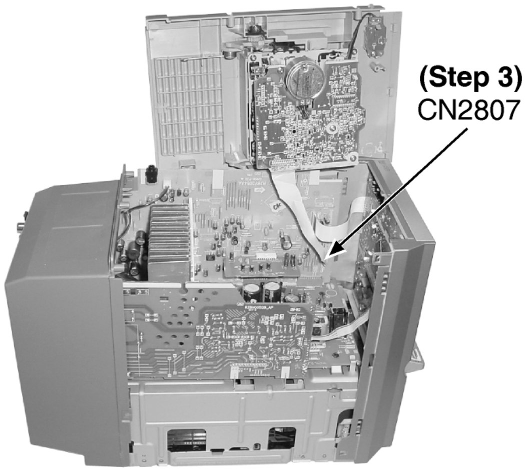
12.3. Disassembly of Top Cabinet Unit

- Follow the (Step 1) - (Step 6) of Item 12.2.


(Step 1)
catch
Top Cabinet Unit
(Step 2)

Step 1 : Release catches at both ends.

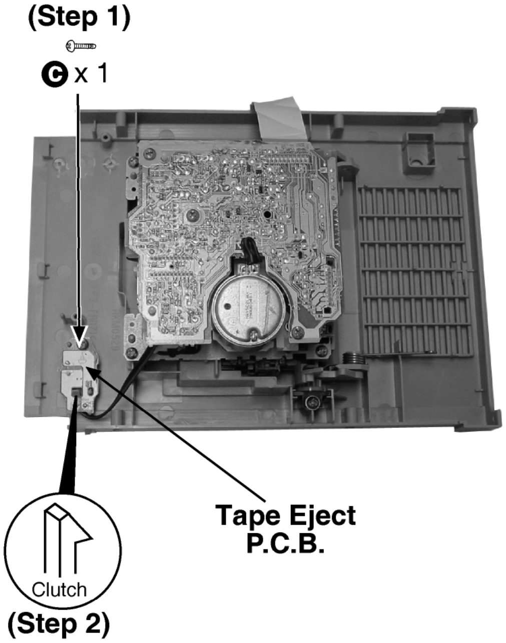
Step 2 : Lift up the top cabinet unit, push backward as arrow shown and flip top cabinet unit sideway.


(Step 3)
CN2807

Step 3 : Detach the FFC CN2807.

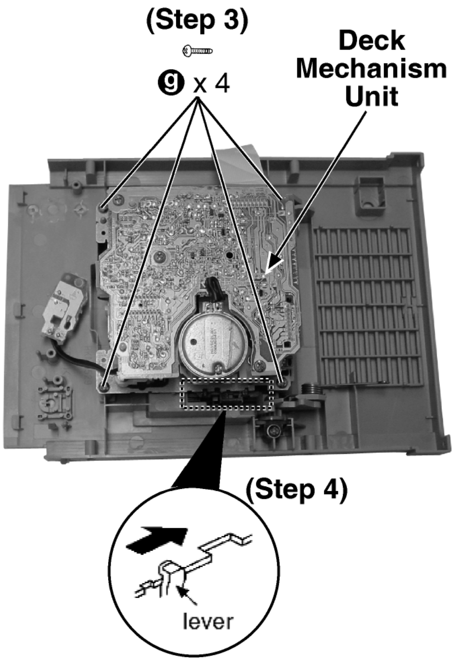
12.4. Disassembly of Deck Mechanism and Tape Eject P.C.B

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 3) of Item 12.3.


(Step 1)
Ⓒ x 1
Tape Eject P.C.B.
Clutch
(Step 2)

Step 1 : Remove 1 screw.

Step 2 : Release the clutch.

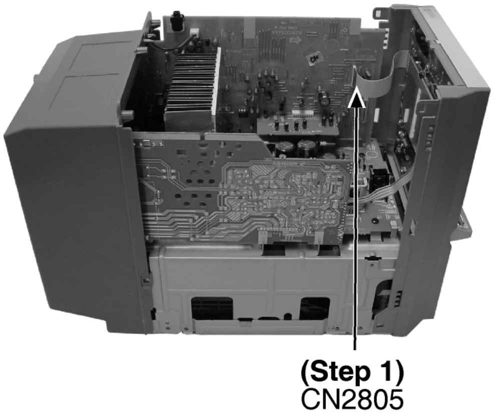

(Step 3)
ⓖ x 4
Deck Mechanism Unit
(Step 4)
lever

Step 3 : Remove 4 screws.

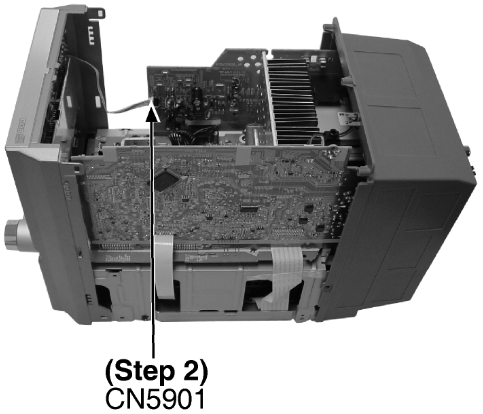
Step 4 : Push the lever as arrow shown to open the cassette lid and remove the deck mechanism unit.

12.5. Disassembly of Front Panel Assembly

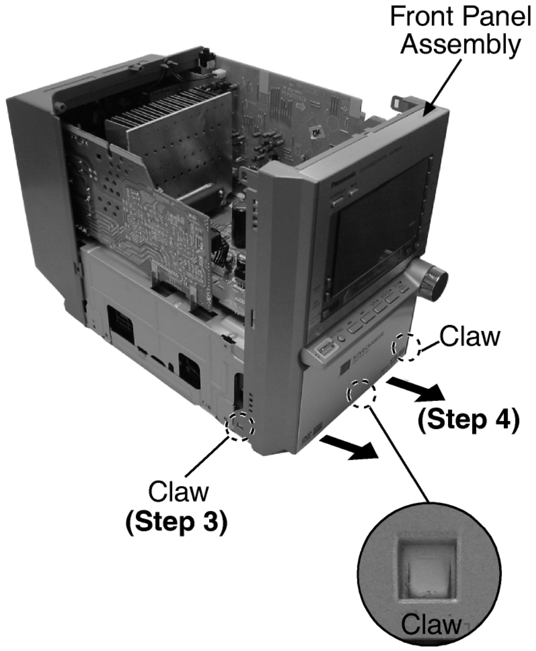
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 3) of Item 12.3.


(Step 1)
CN2805

Step 1 : Detach the FFC CN2805.


(Step 2)
CN5901

Step 2 : Detach the connector CN5901.


Front Panel Assembly
Claw
(Step 4)
Claw
(Step 3)
Claw

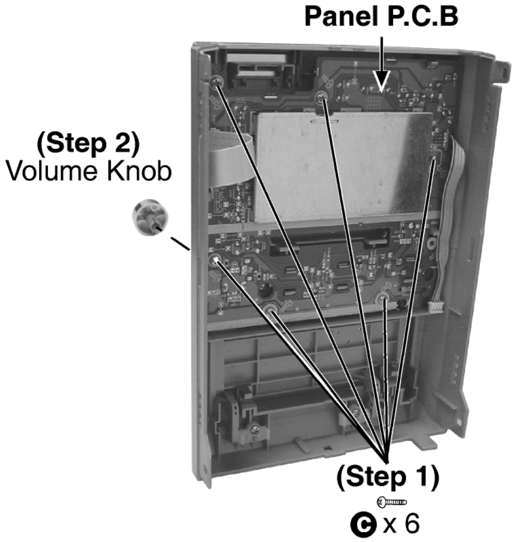
Step 3 : Release 3 claws.

Step 4 : Remove the front panel assembly as arrow shown.

12.6. Disassembly of Panel P.C.B

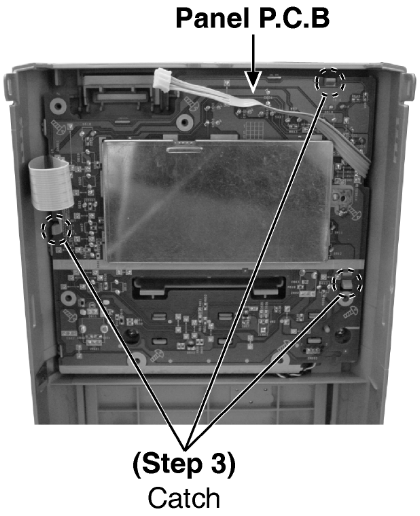
- Follow the (Step 1) - (Step 6) of Item 12.2.

- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.

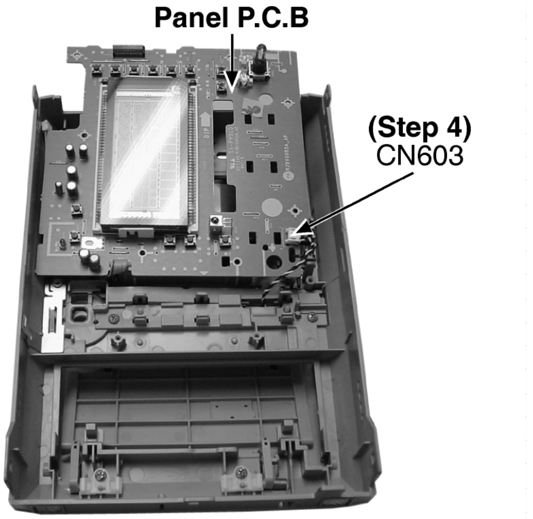

Panel P.C.B
(Step 2)
Volume Knob
(Step 1)
x 6

Step 1 : Remove 6 screws.

Step 2 : Remove the volume knob.


Panel P.C.B
(Step 3)
Catch

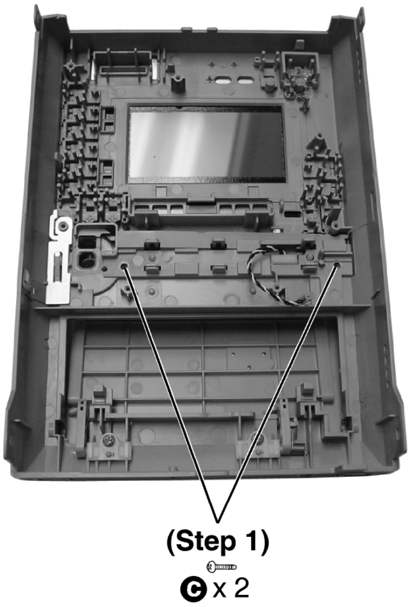
Step 3 : Release 3 catches.


Panel P.C.B
(Step 4)
CN603

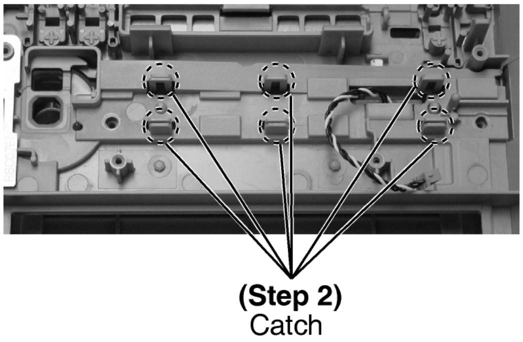
Step 4 : Detach the connector CN603.

12.7. Disassembly of Switch P.C.B

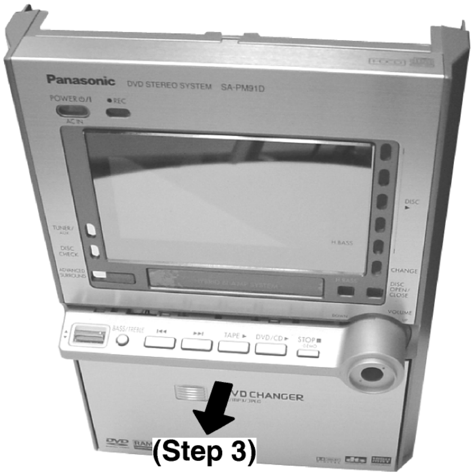
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.6.



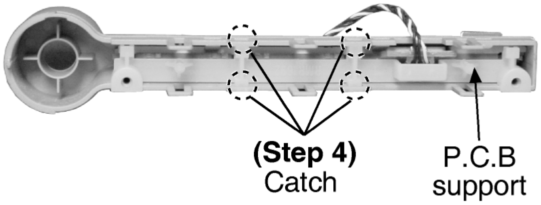
Step 1 : Remove 2 screws.


(Step 2)
Catch

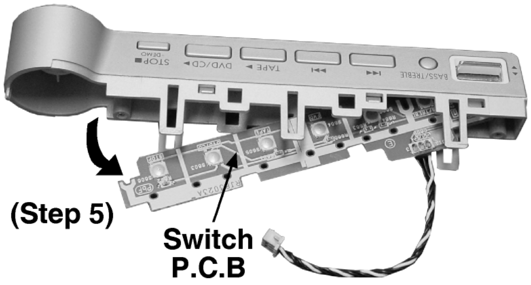
Step 2 : Release 6 catches.



Step 3 : Remove the center stage unit as arrow shown.


(Step 4)
Catch
P.C.B
support

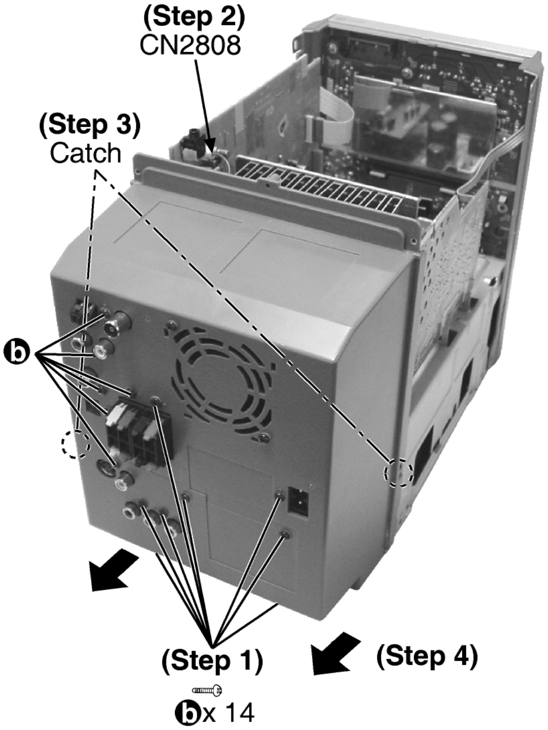
Step 4 : Release 4 catches to remove the P.C.B support.


(Step 5)
Switch
P.C.B

Step 5 : Remove the Switch P.C.B as arrow shown.

12.8. Disassembly of Rear Cabinet

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.


(Step 2)
CN2808
(Step 3)
Catch
b
(Step 1)
b x 14
(Step 4)

Step 1 : Remove 14 screws.

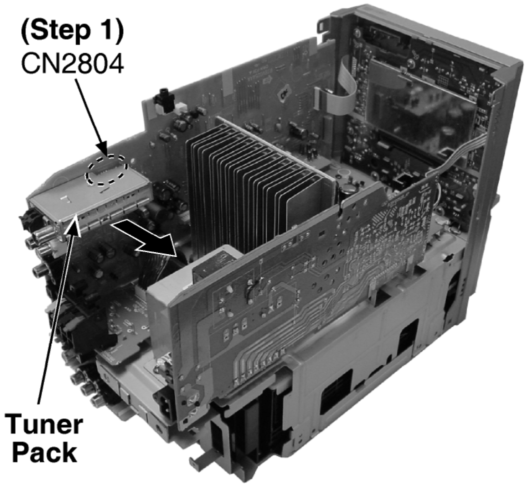
Step 2 : Detach the connector CN2808.

Step 3 : Release 2 catches.

Step 4 : Remove the rear cabinet as arrow shown.

12.9. Disassembly of Tuner Pack

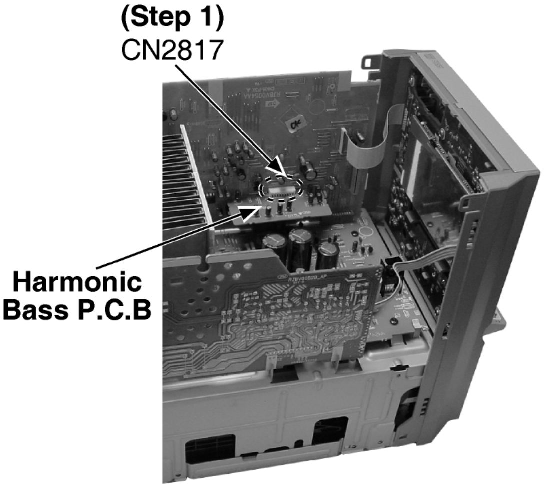
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.8.


(Step 1)
CN2804
Tuner
Pack

Step 1 : Detach the connector CN2804 and remove the tuner pack as arrow shown.

12.10. Disassembly of Harmonic Bass P.C.B

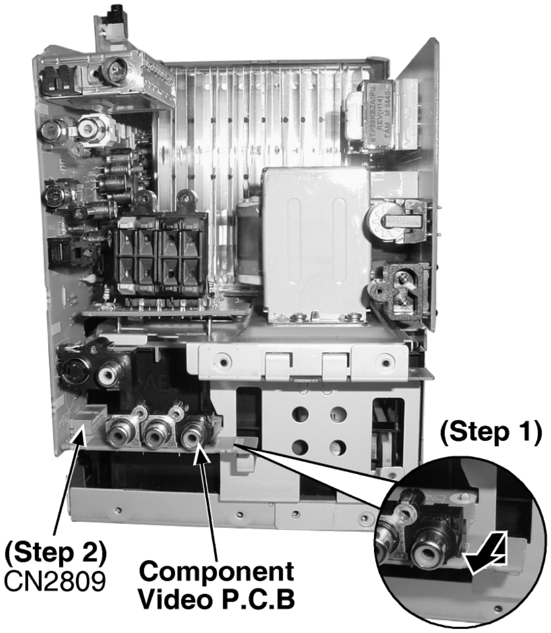
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.


(Step 1)
CN2817
Harmonic Bass P.C.B

Step 1 : Detach the connection CN2817 and remove the Harmonic Bass P.C.B.

12.11. Disassembly of Component Video P.C.B

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.8.

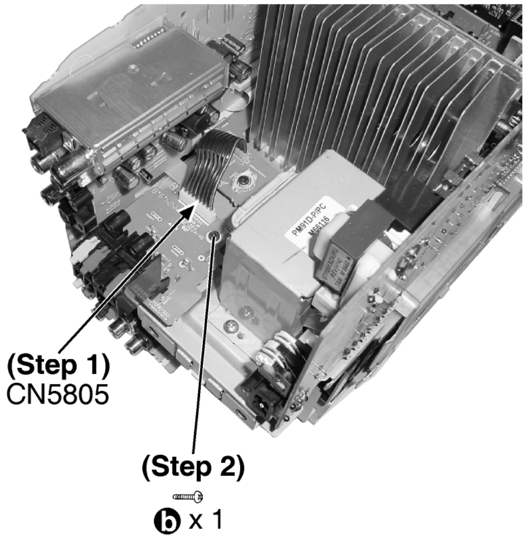

(Step 1)
(Step 2)
CN2809
Component Video P.C.B

Step 1 : Lift the component video P.C.B slightly outward as arrow shown.

Step 2 : Detach the connection CN2809 and remove the Component Video P.C.B.

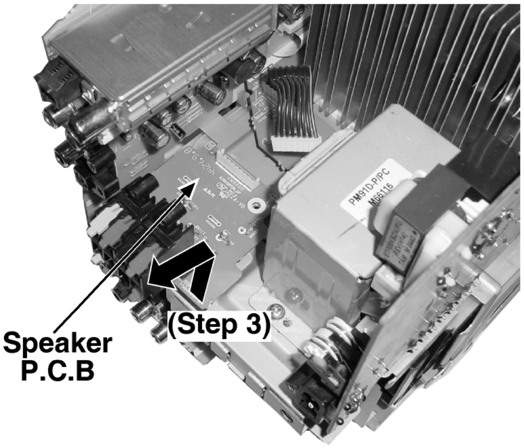
12.12. Disassembly of Speaker P.C.B

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.8.


(Step 1)
CN5805
(Step 2)
ⓑ x 1

Step 1 : Detach the connection CN5805.

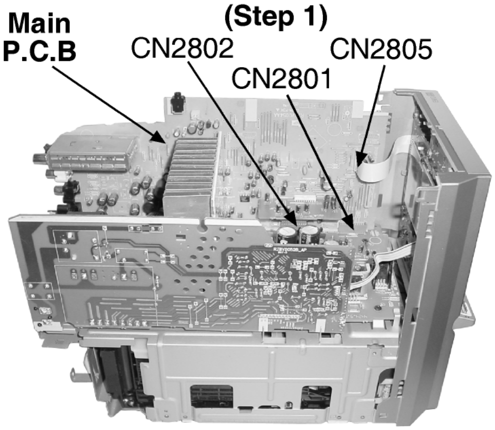
Step 2 : Remove 1 screw.


Speaker P.C.B
(Step 3)

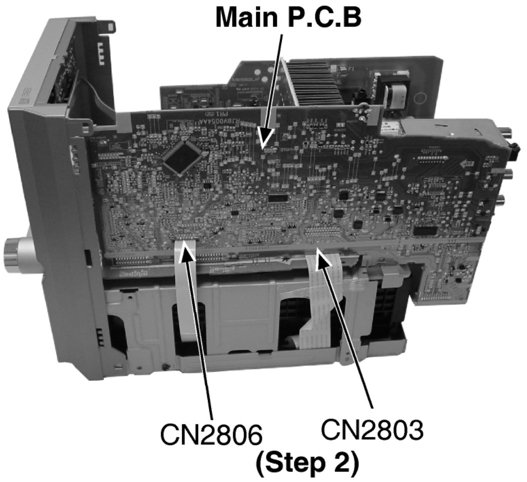
Step 3 : Remove the Speaker P.C.B as arrow shown.

12.13. Disassembly of Main P.C.B

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.8.


Main
P.C.B
(Step 1)
CN2802
CN2805
CN2801

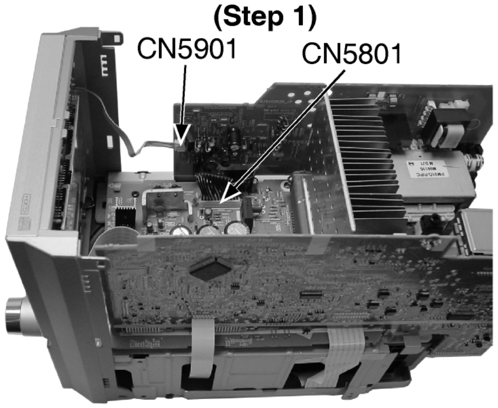
Step 1 : Detach the FFC CN2805 and connection CN2801, CN2802.


Main P.C.B
CN2806
CN2803
(Step 2)

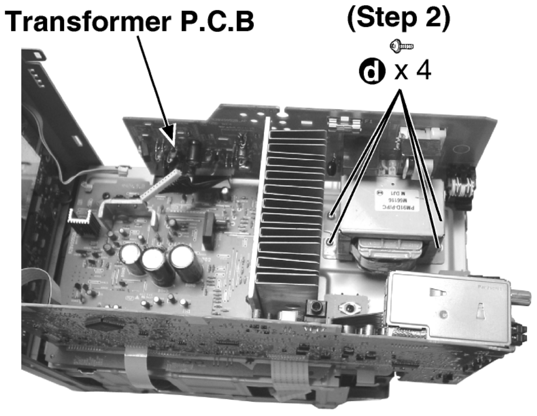
Step 2 : Detach the FFC CN2803, CN2806.

12.14. Disassembly of Transformer P.C.B

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.8.


(Step 1)
CN5901
CN5801

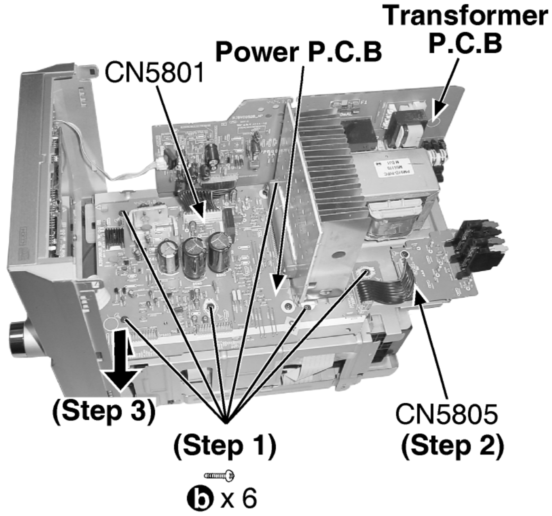
Step 1 : Detach the connector CN5801, CN5901.


Transformer P.C.B
(Step 2)
ⓓ x 4

Step 2 : Remove 4 screws.

12.15. Disassembly of Power P.C.B

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.


Transformer
P.C.B
Power P.C.B
CN5801
(Step 3)
(Step 1)
ⓑ x 6
CN5805
(Step 2)

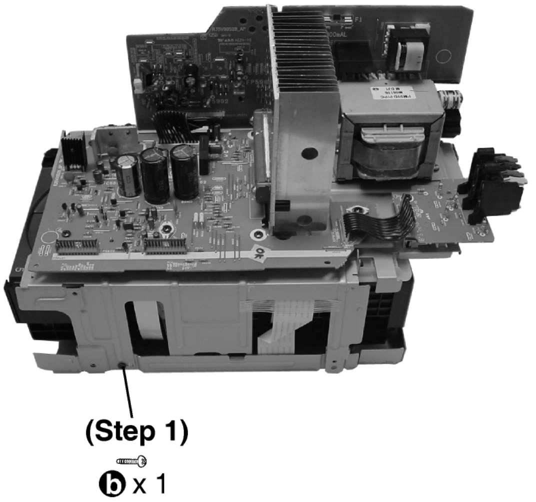
Step 1 : Remove 6 screws.

Step 2 : Detach the connector CN5805 & CN5801.

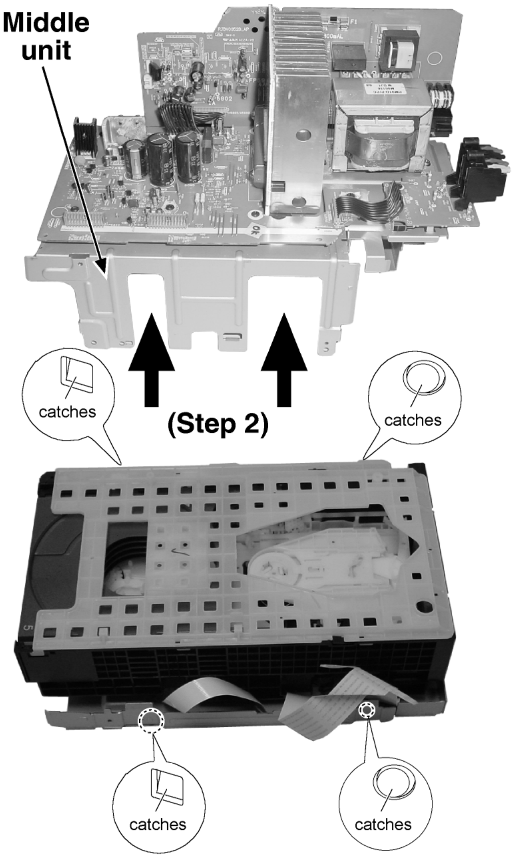
Step 3 : Remove the Power P.C.B as arrow shown.

12.16. Disassembly of DVD Mechanism Unit

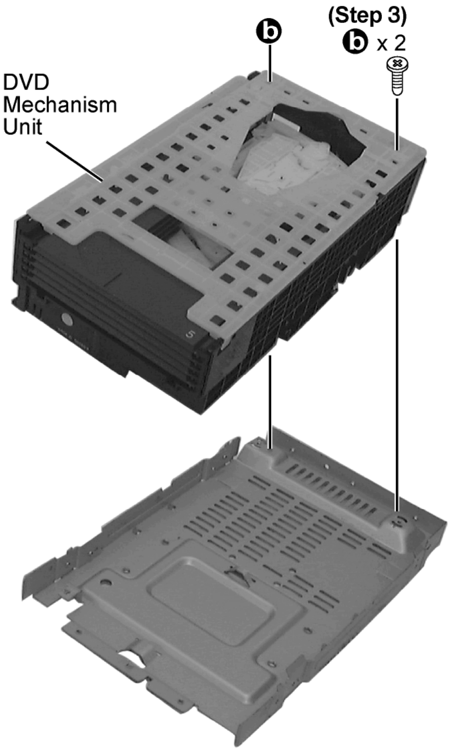
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.



Step 1 : Remove 1 screw.


Middle unit
catches
(Step 2)
catches
catches
catches

Step 2 : Release the catches and remove the middle unit as arrow shown.

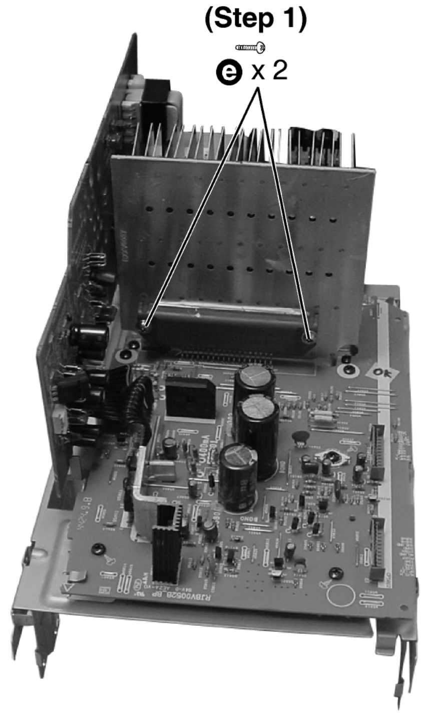

(Step 3)
b x 2
b
DVD Mechanism Unit

Step 3 : Remove 2 screws and lift up DVD Mechanism unit.

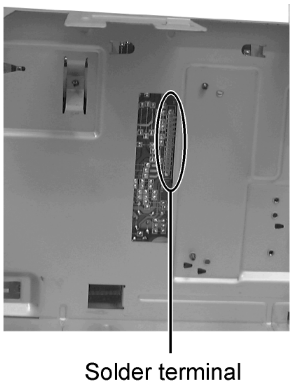
12.17. Checking Procedure for Each Major P.C.B.

12.17.1. Replacement of the Power Amplifier IC

- **Replacement of the Power Amplifier IC**
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 2) of Item 12.16.



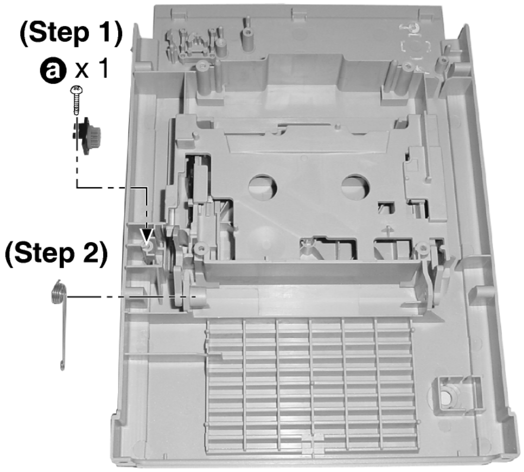
Step 1 Remove 2 screws.


Solder terminal

Step 2 Unsolder the terminals of Power Amp IC (IC500) and replace the component.

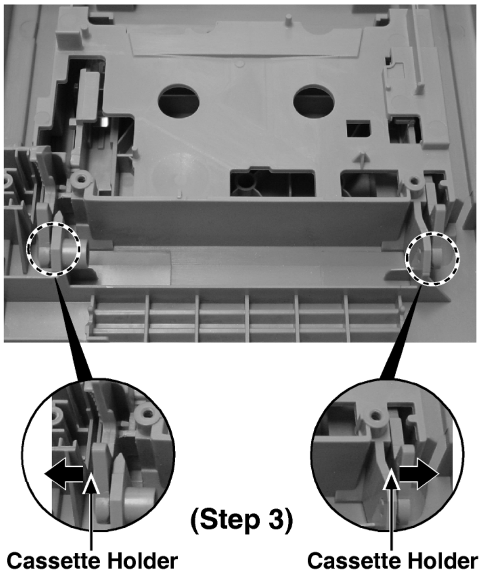
12.18. Procedure for Replacing Deck Holder

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.4.


(Step 1)
ⓐ x 1
(Step 2)

Step 1 : Remove 1 screw and lift up damper gear.

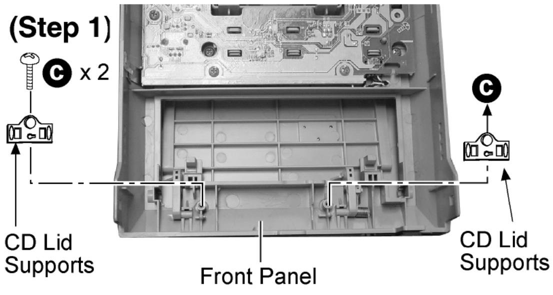
Step 2 : Remove the cassette open spring.


(Step 3)
Cassette Holder
Cassette Holder

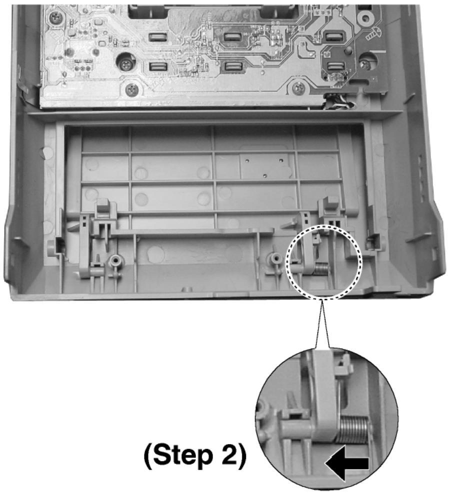
Step 3 : Pull out the ribs of the cassette holder to the arrow direction.

12.19. Replacing for CD Lid

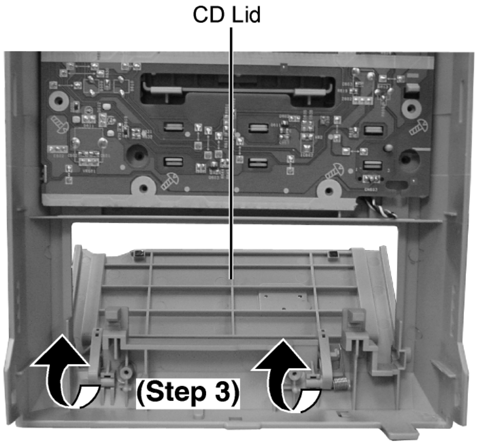
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.


(Step 1)
ⓒ x 2
ⓒ
CD Lid Supports
Front Panel
CD Lid Supports

Step 1 : Remove 2 screws and 2 CD lid supports.



Step 2 : Push the spring as arrow shown.

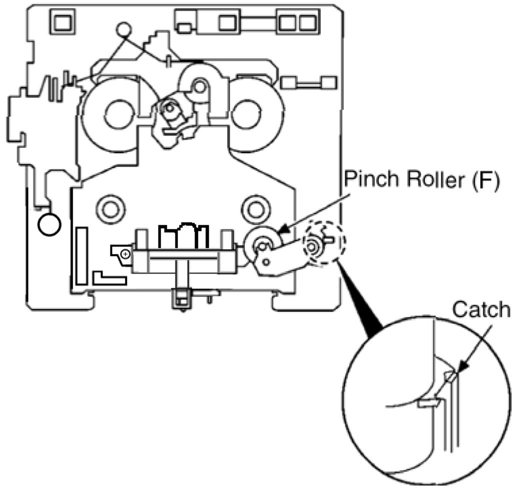

CD Lid
(Step 3)

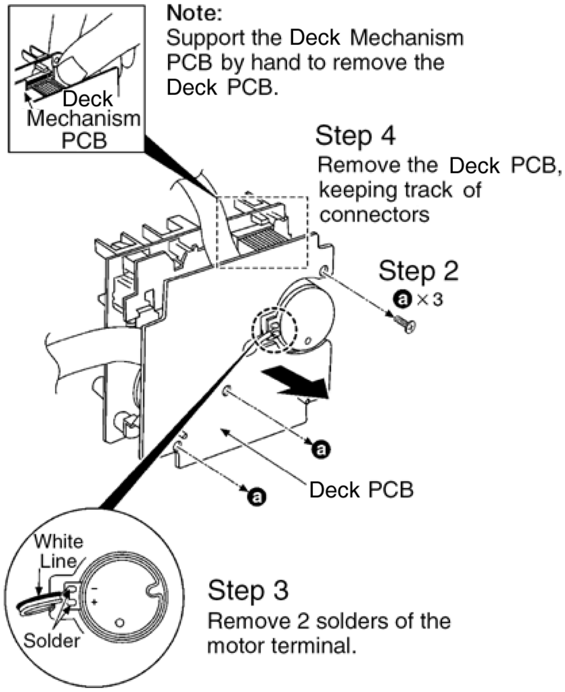
Step 3 : Remove the CD lid as arrow shown.

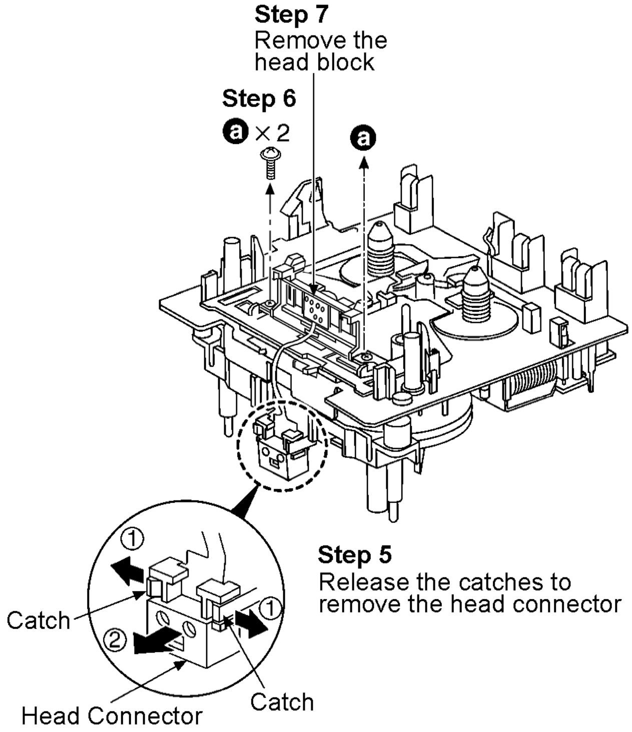
12.20. Procedure for Replacing Pinch Roller and Head Block (Deck Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.4.

Step 1
Release catches to remove the pinch rollers (F).


Pinch Roller (F)
Catch


Note:
Support the Deck Mechanism PCB by hand to remove the Deck PCB.
Deck Mechanism PCB
Step 4
Remove the Deck PCB, keeping track of connectors
Step 2
ⓐ×3
ⓐ
ⓐ
Deck PCB
White Line
Solder
Step 3
Remove 2 solders of the motor terminal.



Step 7
Remove the head block

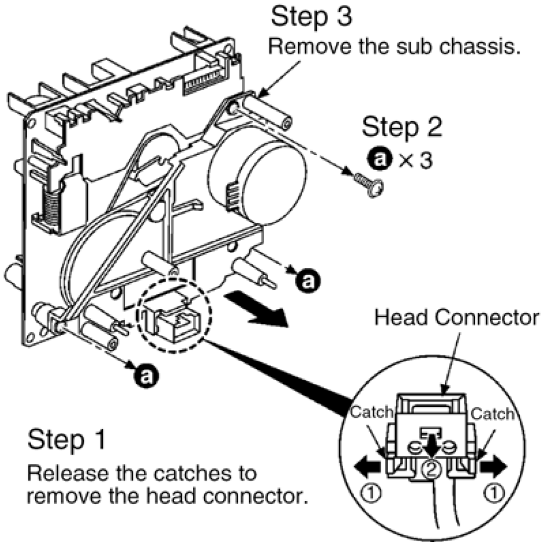
Step 6
ⓐ × 2

Step 5
Release the catches to remove the head connector

ⓐ
①
②
①
Catch
Catch
Head Connector

12.21. Procedure for Replacing Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Deck Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.4.
- Follow the (Step 1) - (Step 4) of Item 12.20.

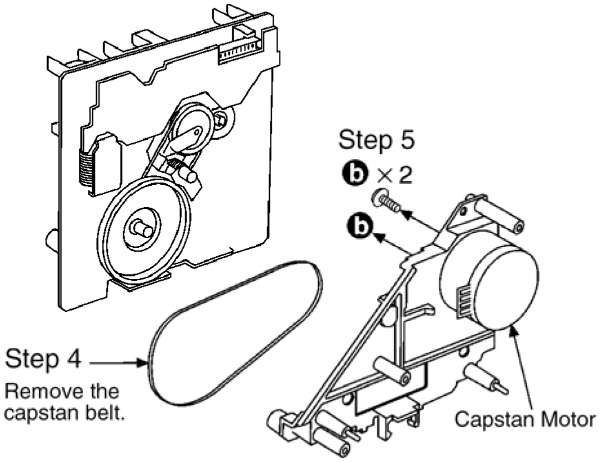


Step 3
Remove the sub chassis.

Step 2
ⓐ × 3

Step 1
Release the catches to remove the head connector.

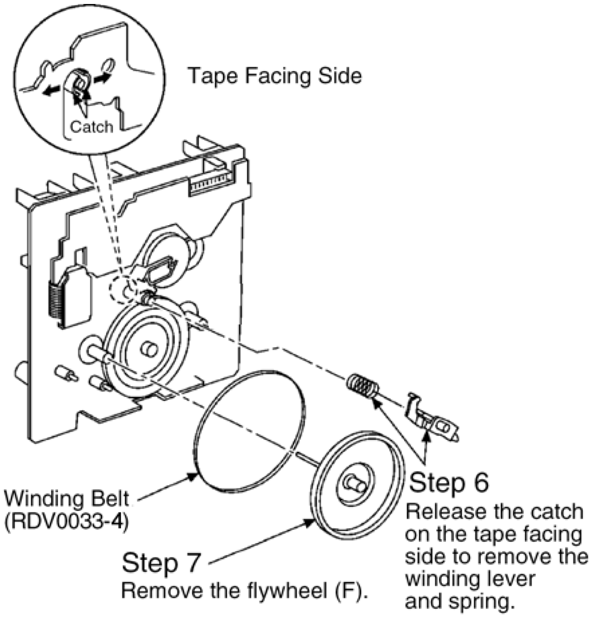
ⓐ
ⓐ
Head Connector
Catch
Catch
①
②
①



Step 4
Remove the capstan belt.

Step 5
ⓑ × 2

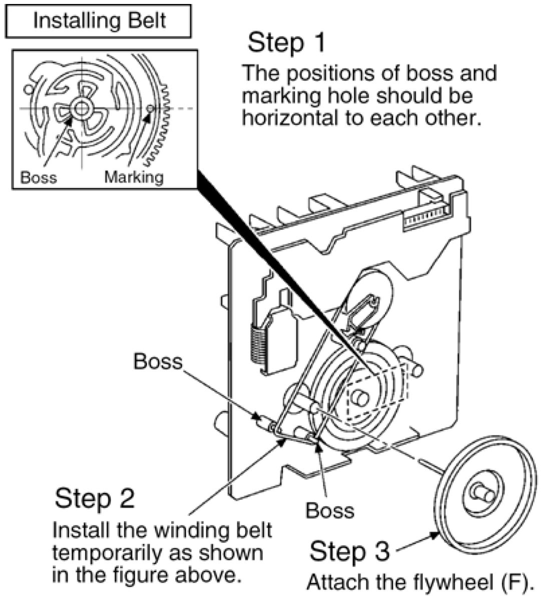
ⓑ
Capstan Motor



Step 6
Release the catch on the tape facing side to remove the winding lever and spring.

Step 7
Remove the flywheel (F).

Tape Facing Side
Catch
Winding Belt
(RDV0033-4)



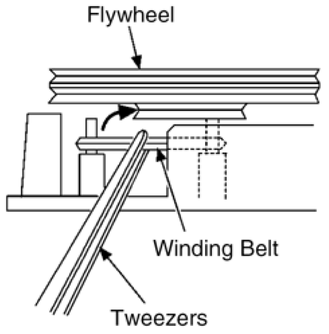
Installing Belt

Step 1
The positions of boss and marking hole should be horizontal to each other.

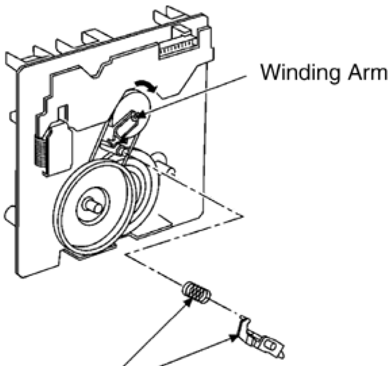
Step 2
Install the winding belt temporarily as shown in the figure above.

Step 3
Attach the flywheel (F).

Boss
Marking
Boss
Boss

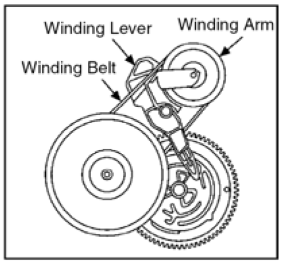

Flywheel
Winding Belt
Tweezers

Step 4
Catch the winding belt on the flywheel (F).

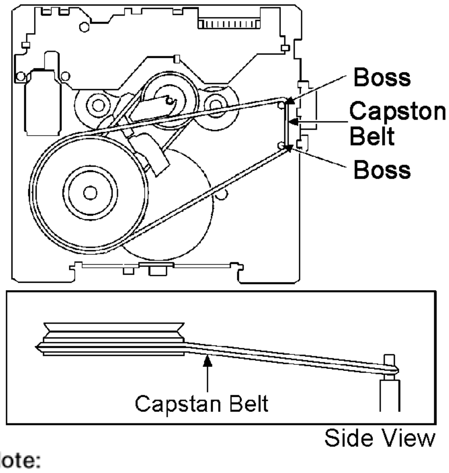

Winding Arm

Step 5
Install the winding lever and spring while the winding arm is pressed to the arrow direction. (Be sure that the winding lever is firmly inserted and the catch is hooked.)

Note:
The winding lever should be positioned as shown in the right figure.

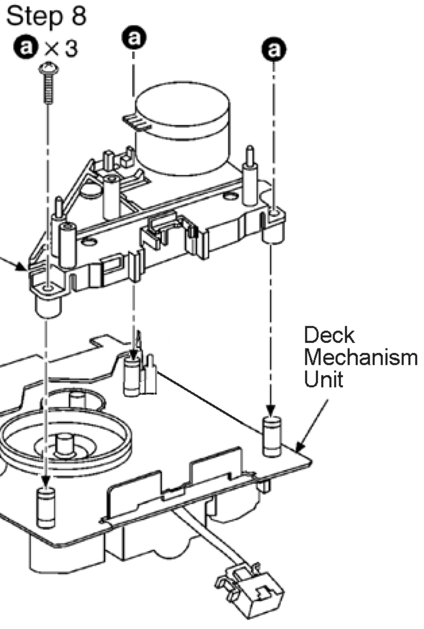

Winding Lever
Winding Arm
Winding Belt

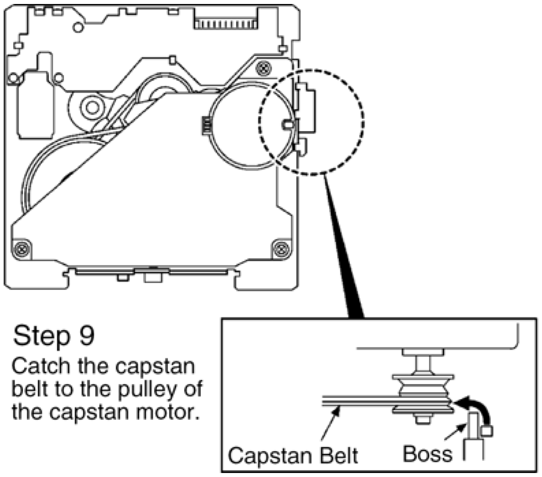
Step 6
Install the capstan belt temporarily as shown in the figure below.


Boss
Capston Belt
Boss
Capstan Belt
Side View

Note:
Keep the belt away from grease.

Step 7
Attach the sub chassis to the deck mechanism.

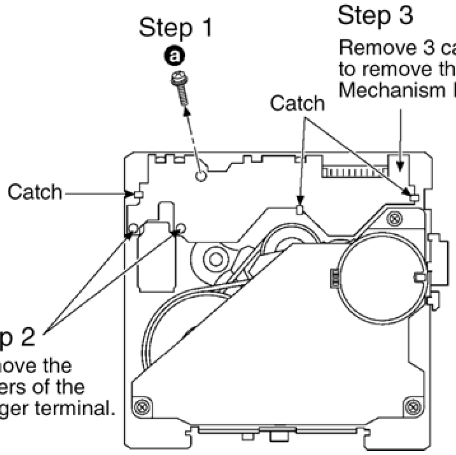

Step 8
a ×3
a
a
Deck Mechanism Unit


Capstan Belt
Boss

Step 9
Catch the capstan belt to the pulley of the capstan motor.

12.22. Procedure for Replacing Parts on Deck Mechanism PCB

- · Follow the (Step 1) - (Step 6) of Item 12.2.
- · Follow the (Step 1) - (Step 4) of Item 12.3.
- · Follow the (Step 1) - (Step 4) of Item 12.4.


Step 1
a
Catch
Catch

Step 3
Remove 3 catches to remove the Deck Mechanism PCB.

Step 2
Remove the solders of the plunger terminal.

12.23. Procedure for removing CR16 mechanism (Precaution)

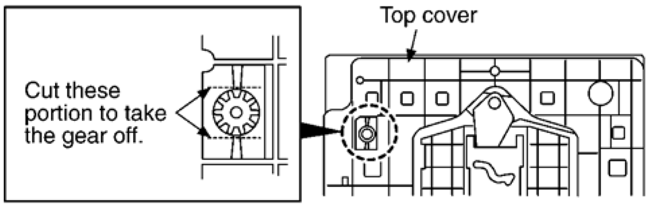
1. Turn off by pressing power SW in the body.
2. Unplug AC power cord after the indication of [BYE], then disassemble the body.
3. Disassemble the body, and take out CD loading mechanism.
4. Perform disassembly according to the following procedure for disassembly.

12.24. CR16 mechanism disassembly procedure

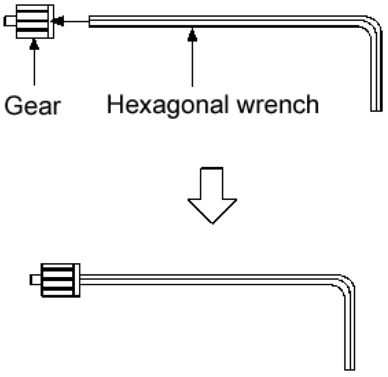
12.24.1. Gear for servicing information

- This unit has a gear which used for chacking items (open/close of disc tray, up/down operation of traverse unit by manually) when servicing. (For gear information, that is described on the items for disassembly procedures.)
- For preparation of gear (for servicing), perform the procedures as follows.
- In case of re-servicing the same set, the " gear for servicing" may be took off because it had been used. So, the "gear for servicing" must be stored.

1. Remove the gear attached to top cover of CD loading mechanism.



2. Insert the hexagonal wrench (2.5mm) into the gear.

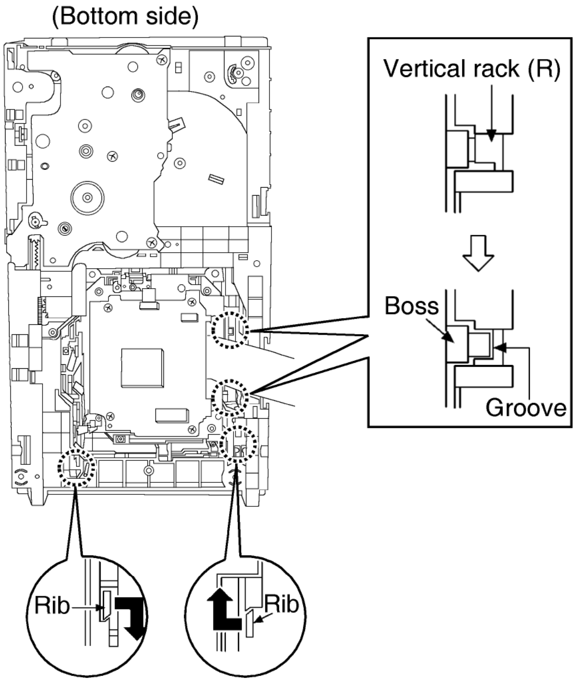


(Preparation of gear as jig is completed)

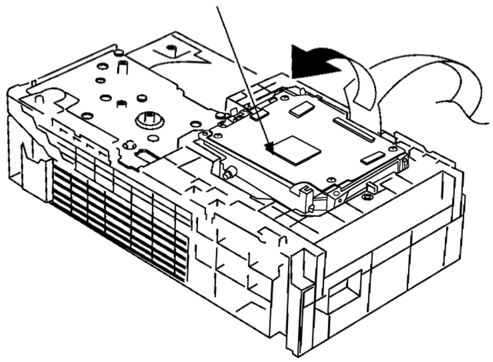
12.24.2. Replacement of traverse deck

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.

(Step 1)
Move ribs at both sides to the arrow direction
(The vertical rack (R) slides and the groove opens)



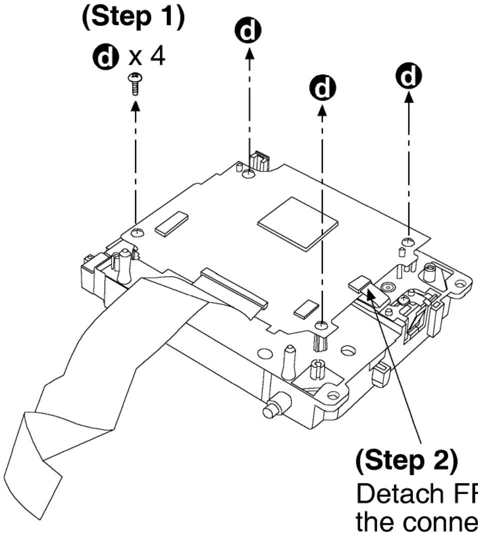
(Step 2)
Remove CD traverse deck rotating to the arrow direction



12.24.3. Replacement of optical pickup unit

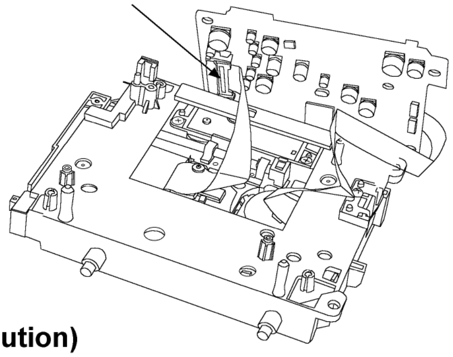
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.
- Follow the (Step 1) - (Step 2) of Item 12.24.2.

(Step 1)

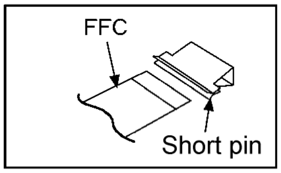


(Step 2)
Detach FFC from the connector

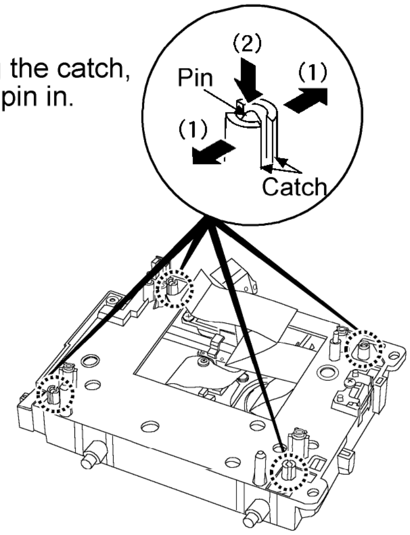
(Step 3)
Pull out FFC from the connector



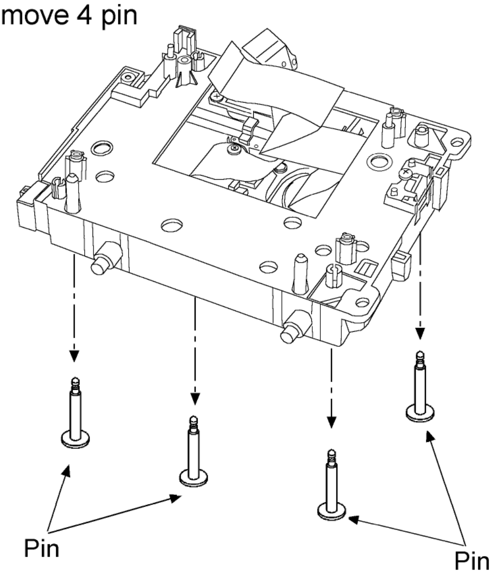
(Caution)
Insert a short pin into FFC of the optical pickup. [See “Notice on handling of the optical pickup”]


FFC
Short pin

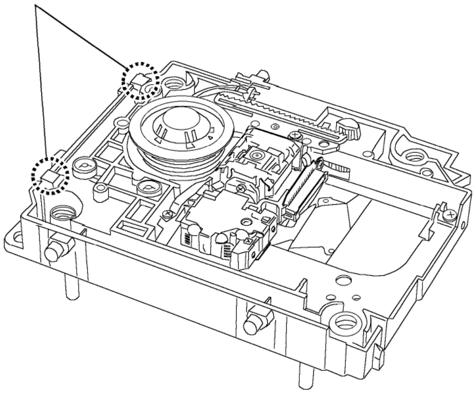
(Step 4)
Widening the catch, push the pin in.


(2)
Pin
(1)
(1)
Catch

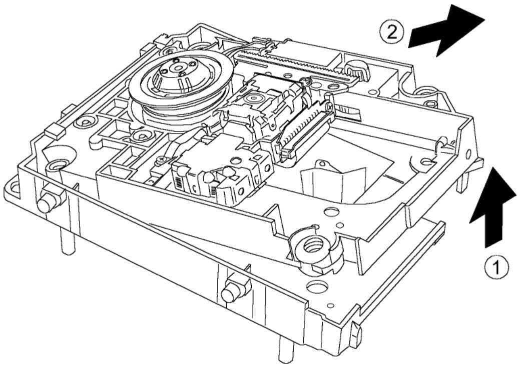
(Step 5)
Remove 4 pin



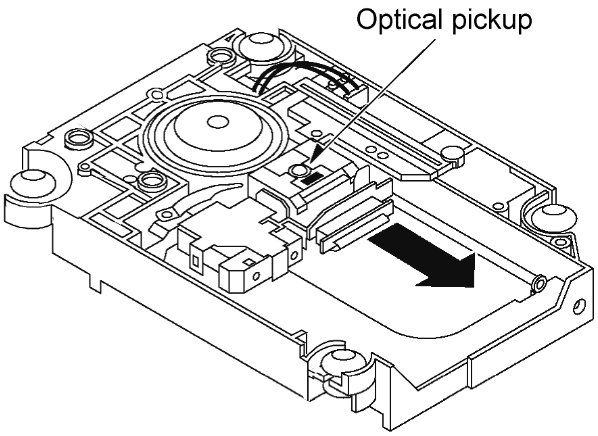
(Caution)
Be careful the catches when remove the traverse deck unit.



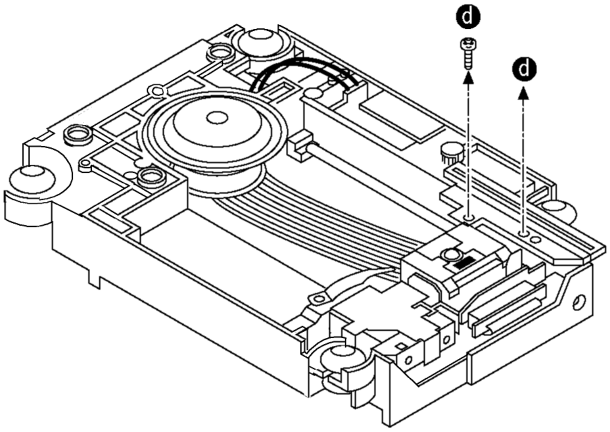
(Step 6)
Remove the traverse deck unit as arrow shown.

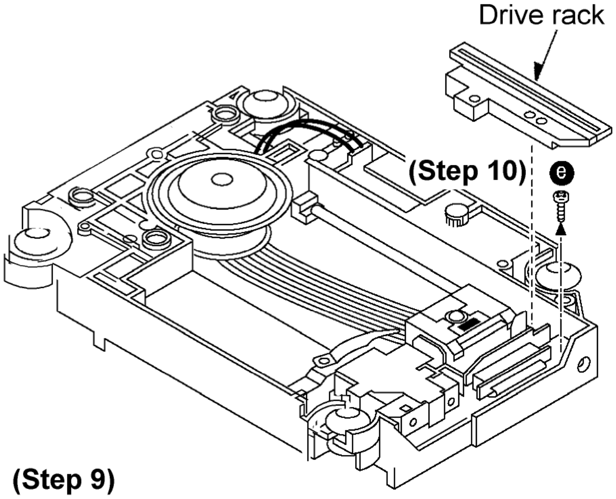


(Step 7)
Shift the optical pickup to the furthest backward as arrow shown.


Optical pickup

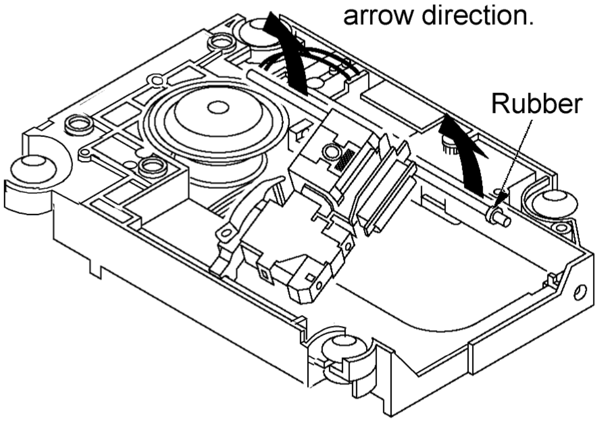
(Step 8)



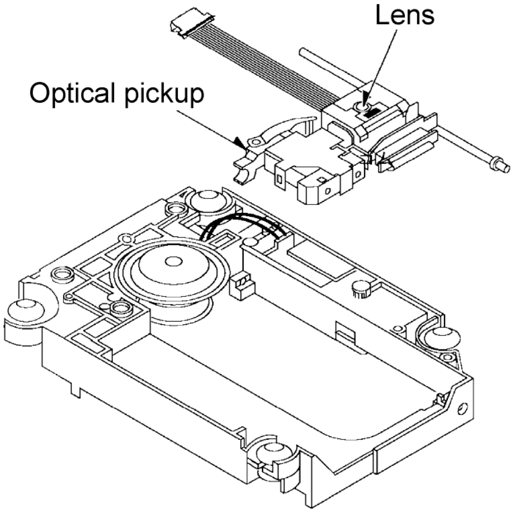

Drive rack
(Step 10)
e

(Step 9)
Remove the drive rack.

(Step 11)
Shift the shaft to the arrow direction.

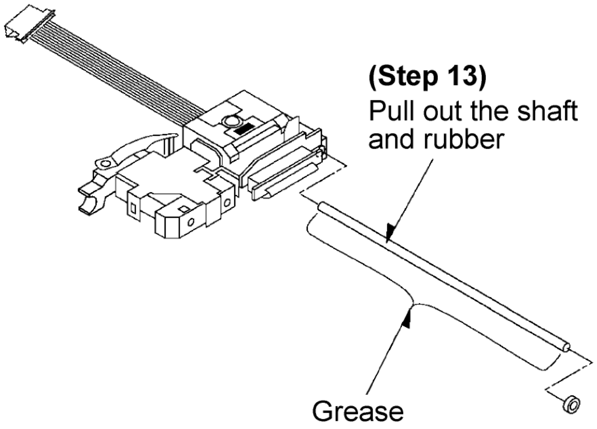


(Step 12)
Lift the optical pickup unit with the shaft.


Lens
Optical pickup

(Caution)

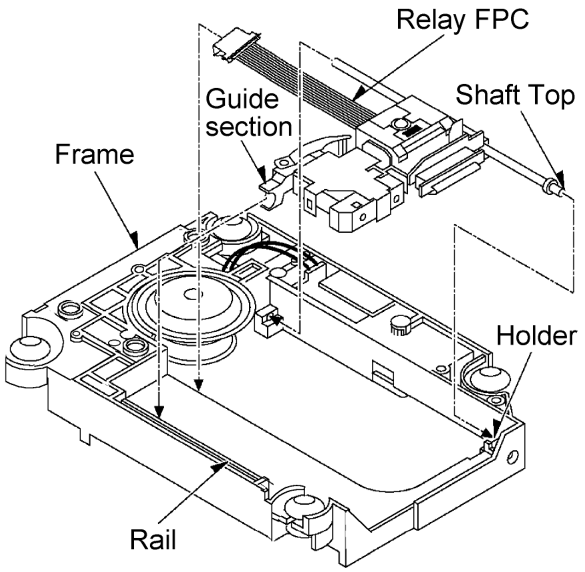
1. Do not subject optical pickup to static electricity as it is extremely sensitive to electrical shock
2. Do not touch the lens of the optical pickup



(Step 13)
Pull out the shaft and rubber

Procedure for Assembly of Optical Pickup Unit

(Step 1)
Put relay FPC into a hole of frame

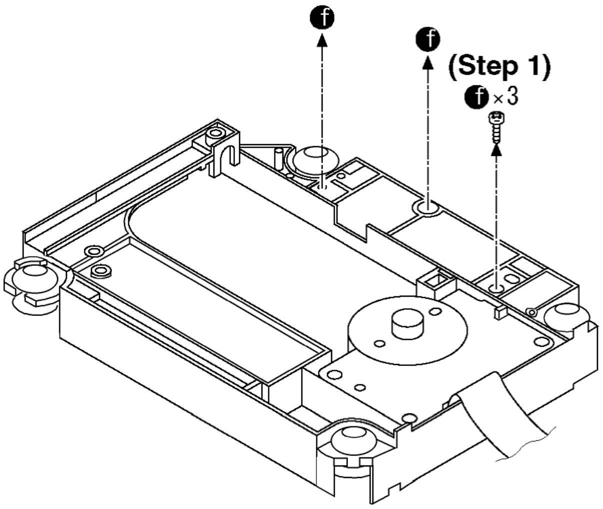

Relay FPC
Guide section
Shaft Top
Frame
Holder
Rail

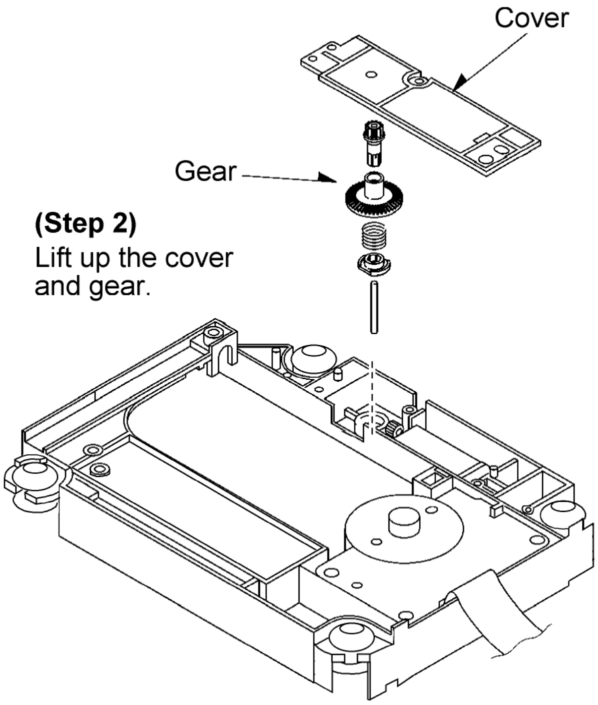
(Step 3)
Put shaft top into the holder.

(Step 2)
Fit optical pickup unit guide into the rail.

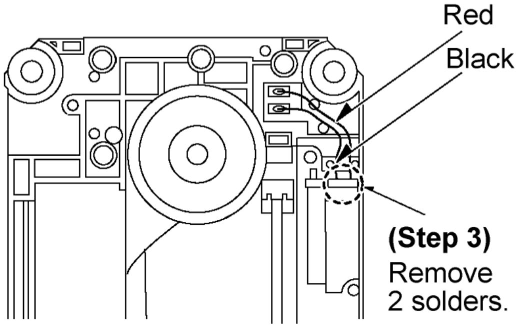
12.24.4. Disassembly of Traverse Motor (Unit) and Spindle Motor (Unit)

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.
- Follow the (Step 1) - (Step 2) of Item 12.24.2.
- Follow the (Step 1) - (Step 13) of Item 12.24.3.



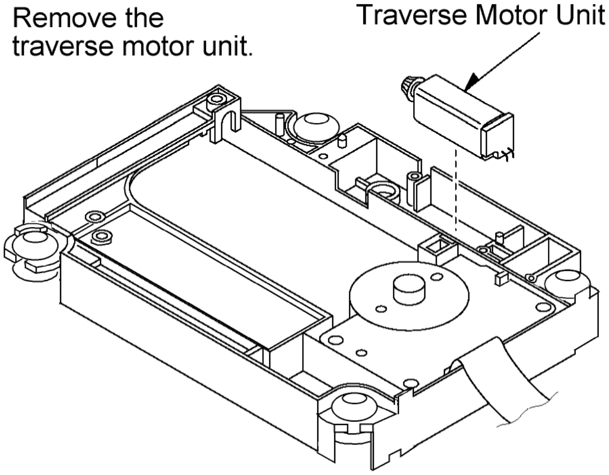


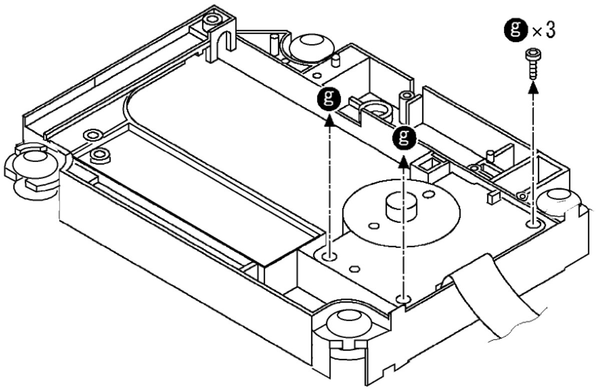
(Step 2)
Lift up the cover and gear.



(Step 3)
Remove 2 solders.

(Step 4)
Remove the traverse motor unit.


Traverse Motor Unit

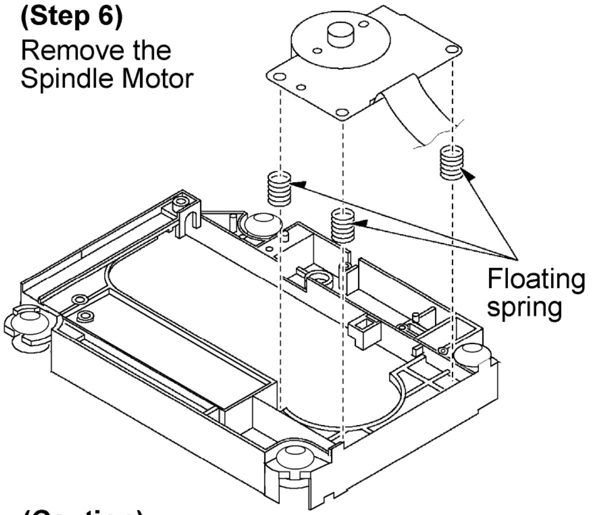


(Step 5)

Remove 3 screws with 1.8mm slotted screwdriver.

(Step 6)

Remove the Spindle Motor


Floating spring

(Caution)

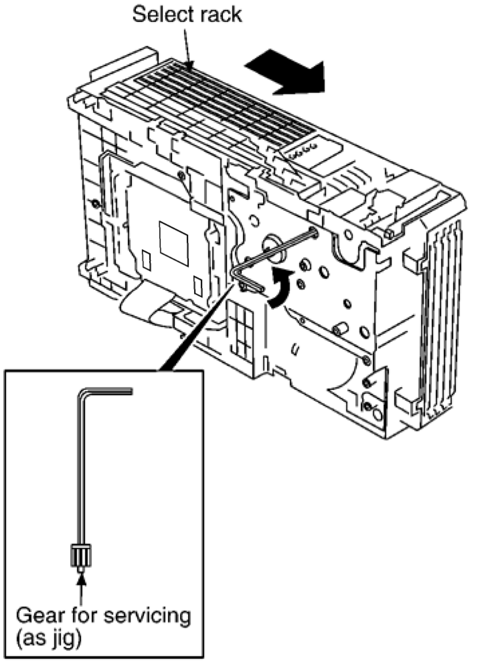
As floating springs (3 pieces) come off at the same time, be careful not to lose them.

12.24.5. Replacement for the disc tray

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.

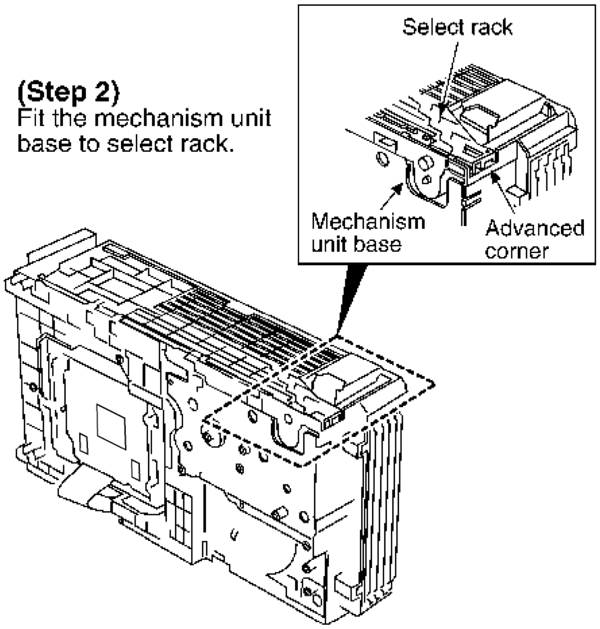
(Step 1)

Rotate the gear for servicing and move the select rack to advanced corner.


Select rack
Gear for servicing (as jig)

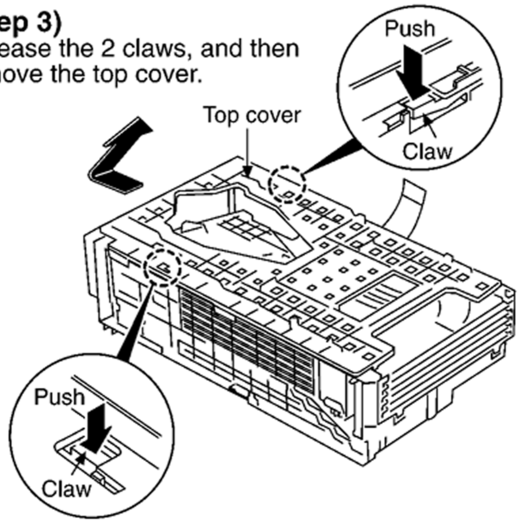
(Step 2)

Fit the mechanism unit base to select rack.

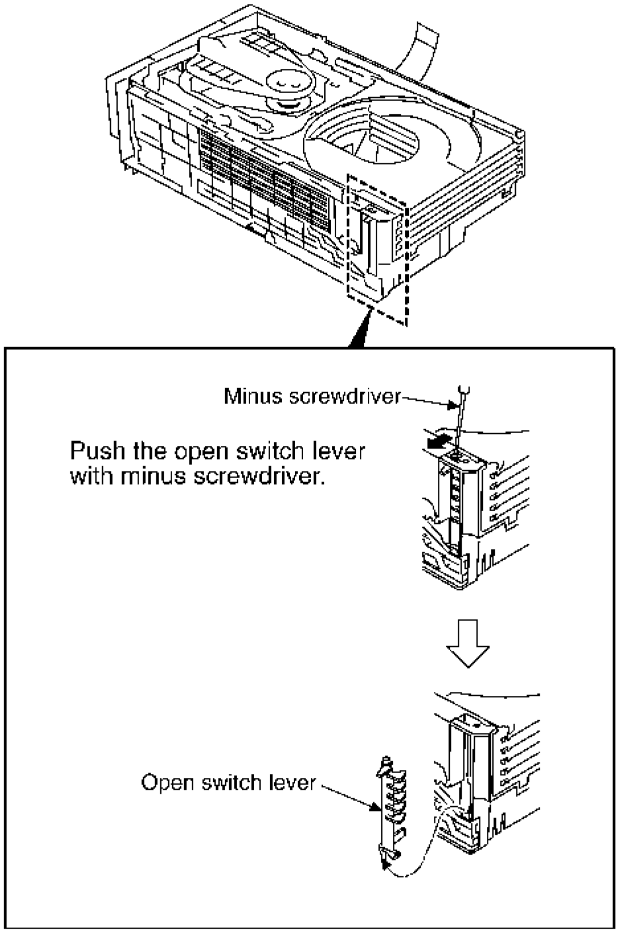

Select rack
Mechanism unit base
Advanced corner

(Step 3)

Release the 2 claws, and then remove the top cover.

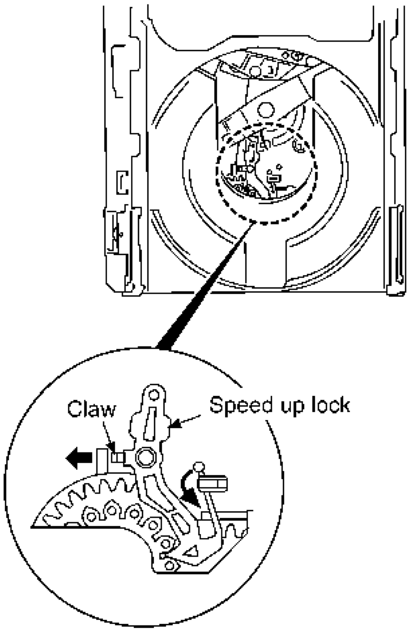

Push
Claw
Top cover
Push
Claw

(Step 4)
Remove the open switch lever.


Minus screwdriver
Open switch lever

Push the open switch lever with minus screwdriver.

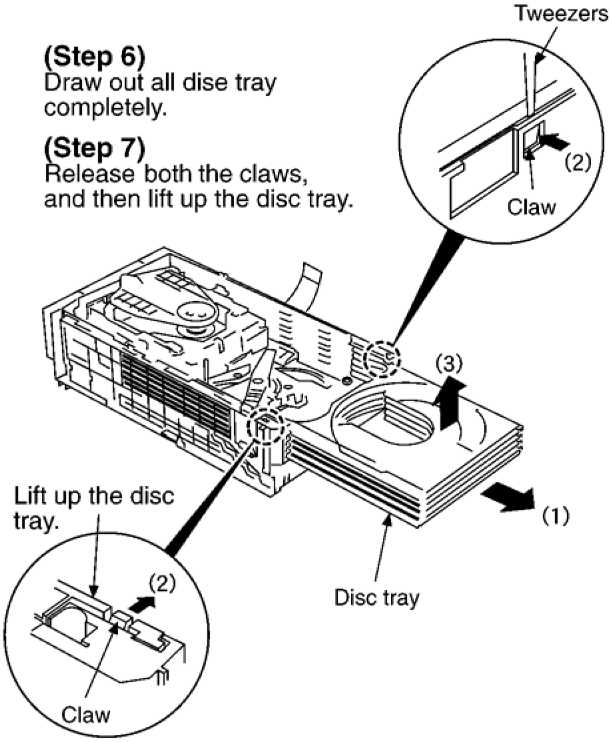
(Step 5)
Release the claw, and then remove the speed up lock.


Claw
Speed up lock

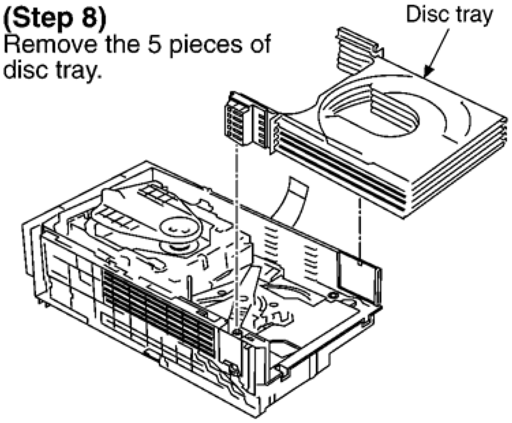
(Step 6)
Draw out all dise tray completely.

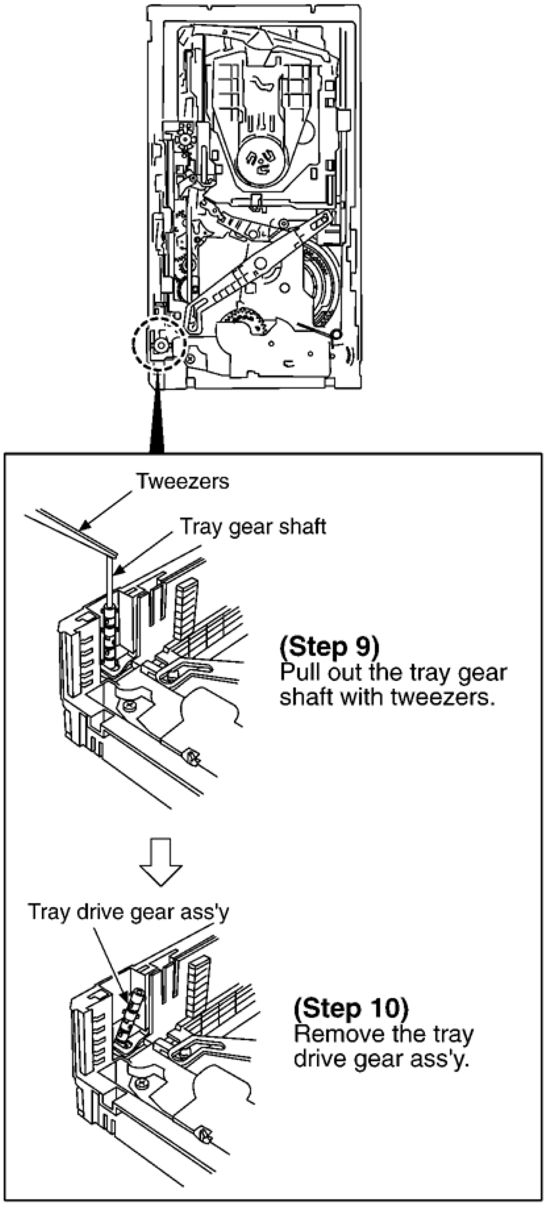
(Step 7)
Release both the claws, and then lift up the disc tray.

Insert the tweezers between the mechanism base and disc tray, and then lift up the disc tray.


Tweezers
(2)
Claw
(3)
Lift up the disc tray.
(2)
Claw
(1)
Disc tray

(Step 8)
Remove the 5 pieces of disc tray.




Tweezers
Tray gear shaft
Tray drive gear ass'y

(Step 9)
Pull out the tray gear shaft with tweezers.

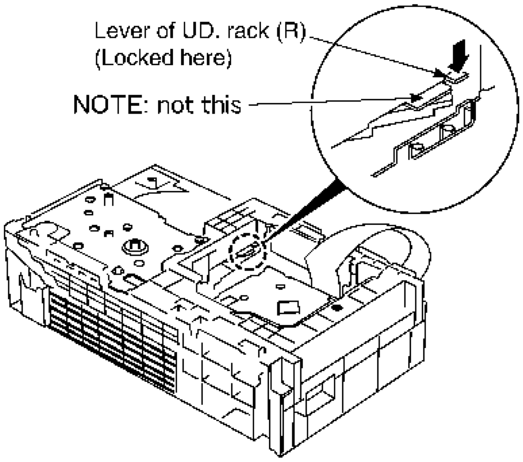
(Step 10)
Remove the tray drive gear ass'y.

12.24.6. Replacement for the traverse deck

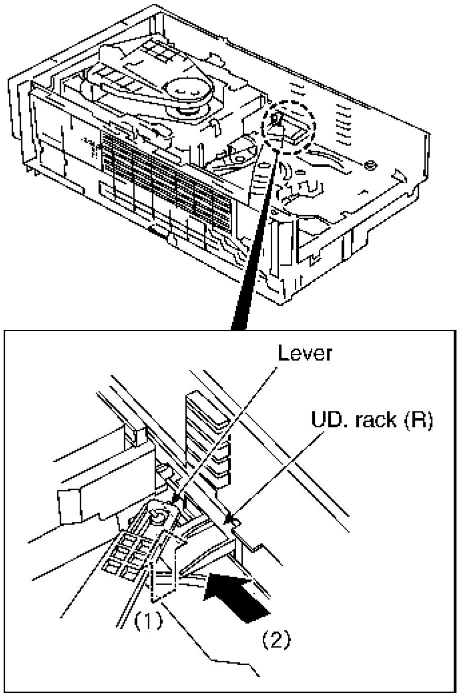
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.
- Follow the (Step 1) - (Step 10) of Item 12.24.5.

(Step 1)
Confirm the position for lever of UD. rack (R) to remove traverse unit.

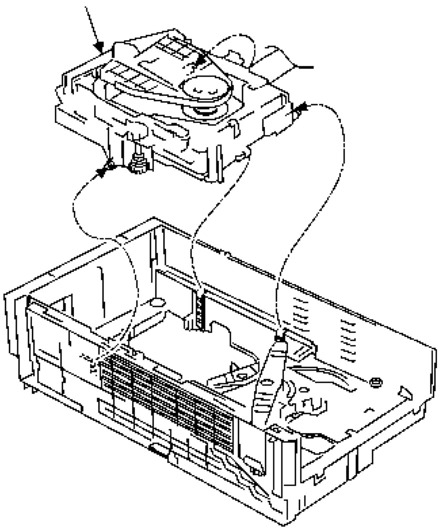
(Step 2)
Turn the unit over. (Upside: P.C.B.)


Lever of UD. rack (R)
(Locked here)
NOTE: not this

(Step 3)
Turn the unit over again, slide UD. rack (R) while pushing up the lever from the bottom.

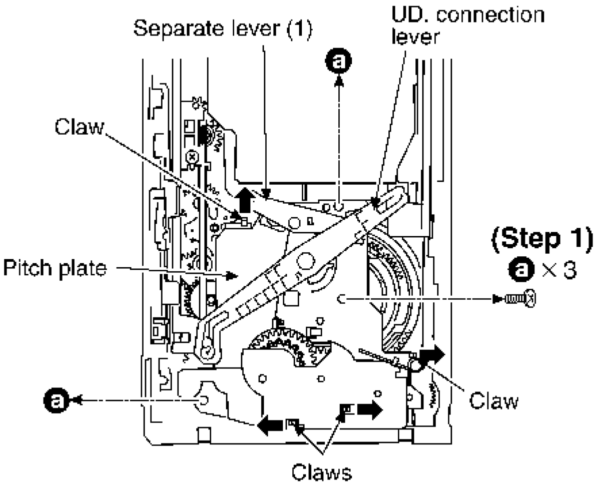

Lever
UD. rack (R)
(1)
(2)

(Step 4)
Remove the traverse unit.



12.24.7. Disassembly for loading unit

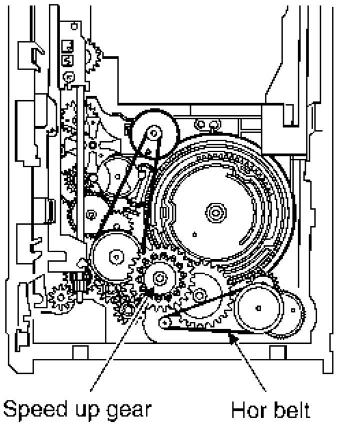
- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.
- Follow the (Step 1) - (Step 10) of Item 12.24.5.
- Follow the (Step 1) - (Step 4) of Item 12.24.6.


Separate lever (1)
UD. connection lever
ⓐ
Claw
Pitch plate
ⓐ
Claw
Claws

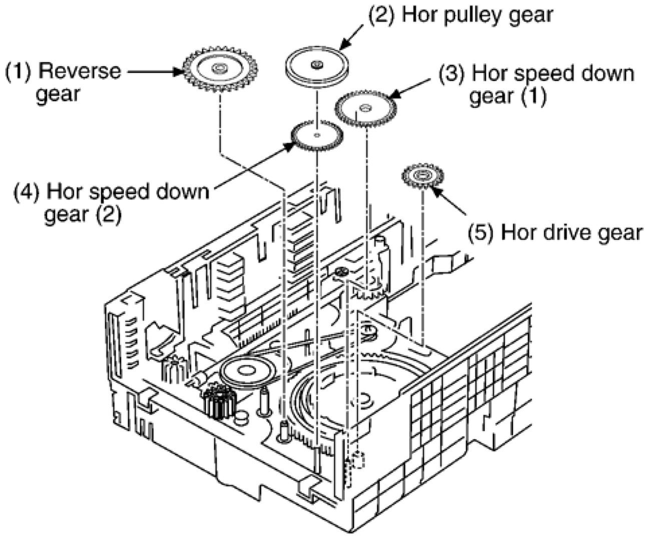
(Step 1)
ⓐ × 3

(Step 2)
Release the 4 claws, and then remove the pitch plate together with separate lever (1) and UD. connection lever.

(Step 3)
Remove the speed up gear and hor belt.

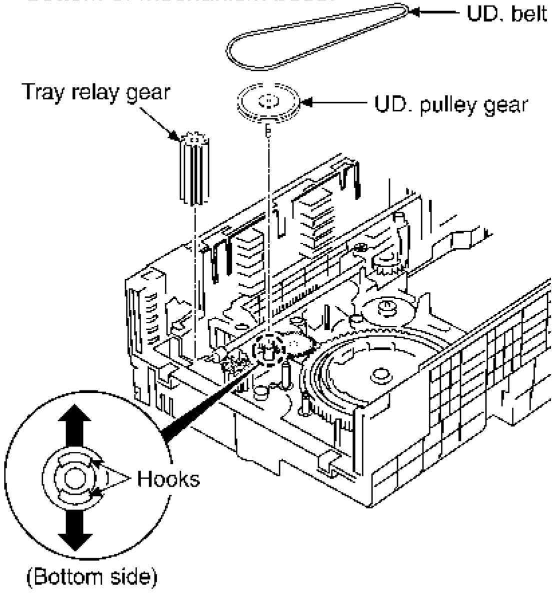

Speed up gear
Hor belt

(Step 4)
Remove the reverse gear, hor pulley gear, hor speed down gear (1), hor speed down gear (2) and hor drive gear.

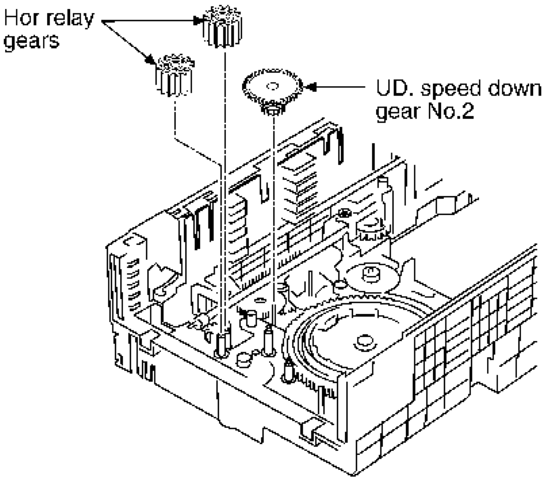

(2) Hor pulley gear
(1) Reverse gear
(3) Hor speed down gear (1)
(4) Hor speed down gear (2)
(5) Hor drive gear

(Step 5)
Remove the UD. belt and tray relay gear.

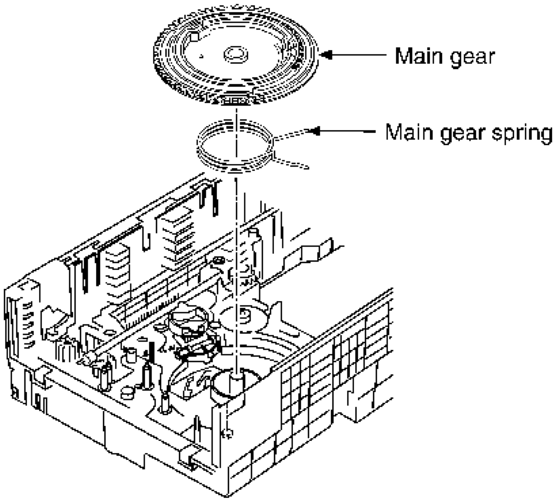
(Step 6)
Pull out the UD. pulley gear, loosen 2 hooks of the bottom of mechanism bese.


UD. belt
Tray relay gear
UD. pulley gear
Hooks
(Bottom side)

(Step 7)
Remove the 2 hor relay gears and UD. speed down gear No.2.

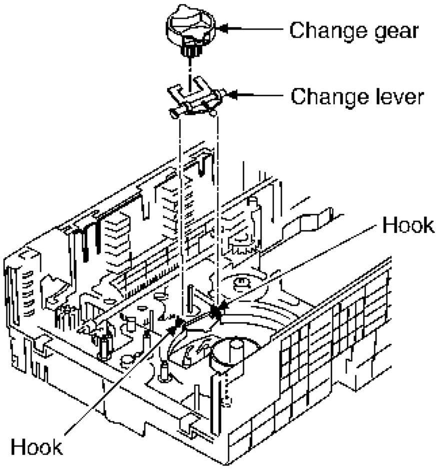

Hor relay gears
UD. speed down gear No.2

(Step 8)
Remove the main gear and main gear spring.

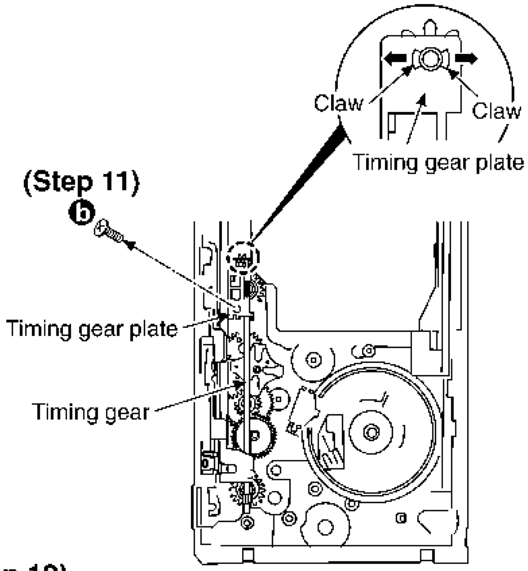

Main gear
Main gear spring

(Step 9)
Remove the change gear.

(Step 10)
Raise the change lever upright, and pull it out of hook.


Change gear
Change lever
Hook
Hook

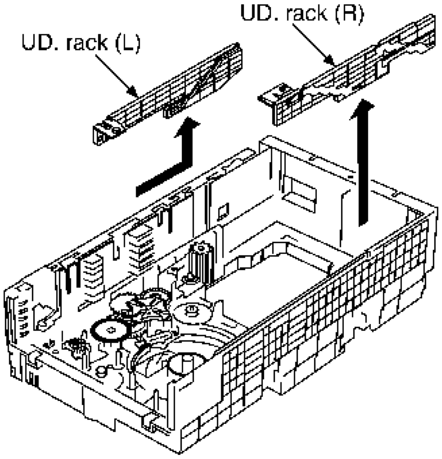
(Step 11)


Claw
Claw
Timing gear plate
b
Timing gear plate
Timing gear

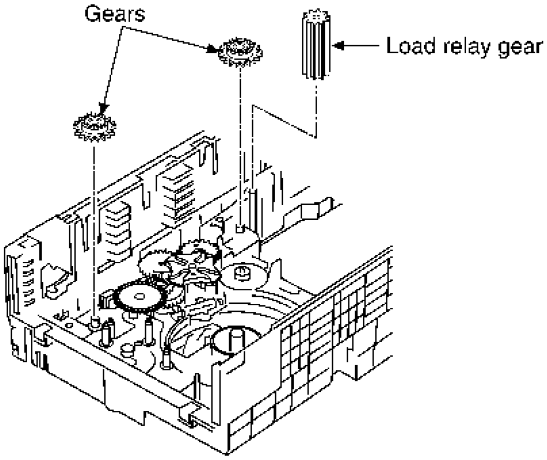
(Step 12)
Release the 2 claws, and then remove the timing gear and timing gear plate.

(Step 13)
Move the UD. rack (L) to backward, and then remove it.

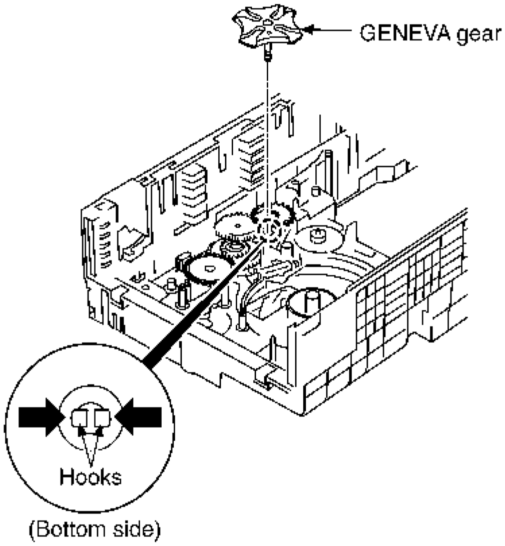
(Step 14)
Remove the UD. rack (R).


UD. rack (R)
UD. rack (L)

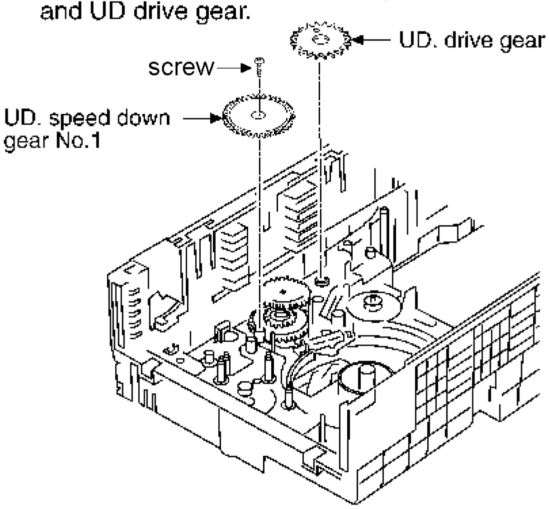
(Step 15)
Remove the 2 gears and load relay gear.


Gears
Load relay gear

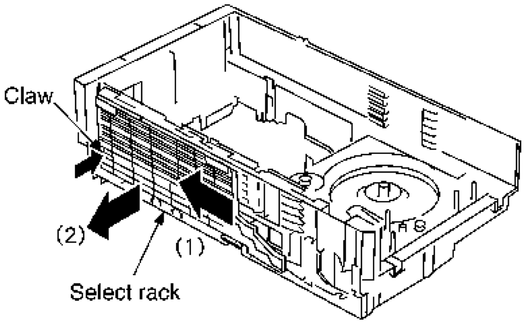
(Step 16)
Pull out the GENEVA gear, loosen 2 hooks of the bottom of mechanism base.

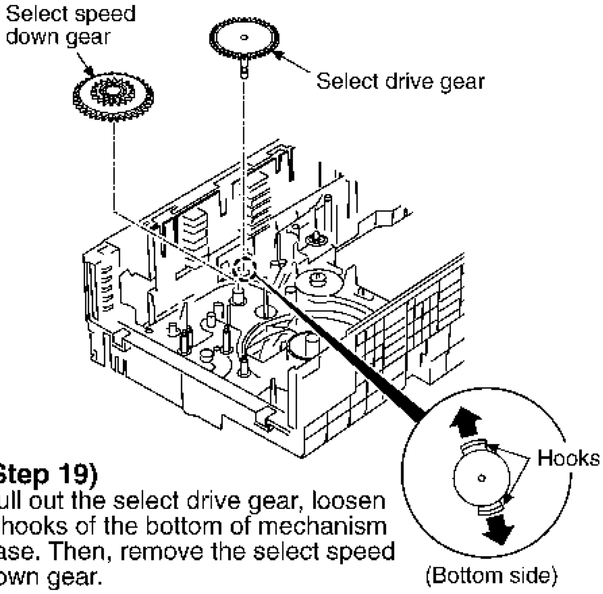

GENEVA gear
Hooks
(Bottom side)

(Step 17)
Remove the UD. speed down gear No.1 and UD drive gear.


UD. drive gear
screw
UD. speed down gear No.1

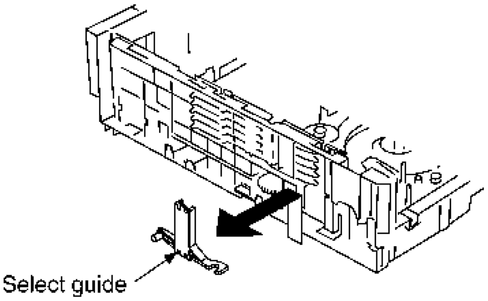
(Step 18)
Slide the select rack to the edge direction of the arrow (1). Push the claw and pull out to arrow (2) while sliding the select rack to the arrow (1).


Claw
(2)
(1)
Select rack

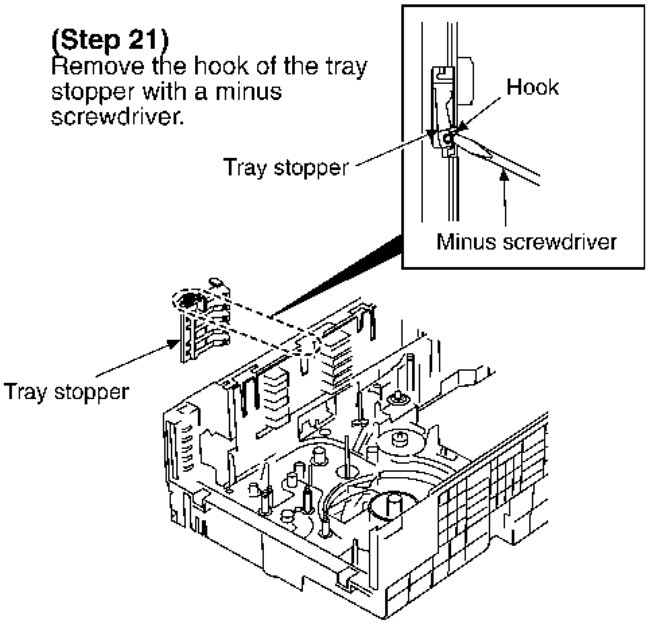

Select speed down gear
Select drive gear
Hooks
(Bottom side)

(Step 19)
Pull out the select drive gear, loosen 2 hooks of the bottom of mechanism base. Then, remove the select speed down gear.

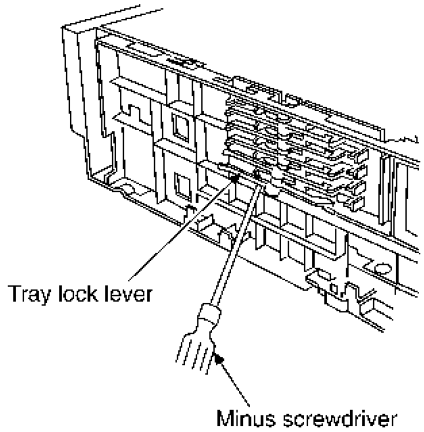
(Step 20)
Remove the select guide after sliding upside.


Select guide

(Step 21)
Remove the hook of the tray stopper with a minus screwdriver.


Hook
Tray stopper
Minus screwdriver
Tray stopper

(Step 22)
Remove the bottom of the tray lock lever with a minus screwdriver and others.


Tray lock lever
Minus screwdriver

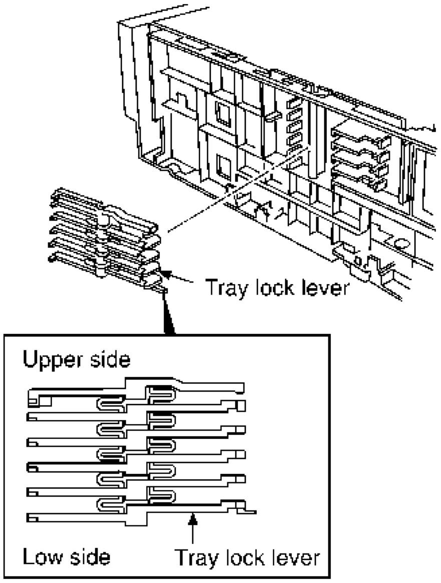
12.25. CR16 MECHANISM ASSEMBLY PROCEDURE

The following specified greases and/or oil must be applied when some specific parts are changed.

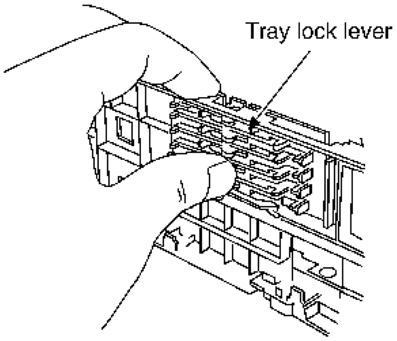
1. Floil grease (VFK1298) : The floil grease must be applied to tray, tray (L) and tray (R).
2. Hanarl oil (VFK1700) : The hanarl oil must be applied to any parts with grease other than the said parts.

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.
- Follow the (Step 1) - (Step 10) of Item 12.24.5.
- Follow the (Step 1) - (Step 4) of Item 12.24.6.
- Follow the (Step 1) - (Step 22) of Item 12.24.7.

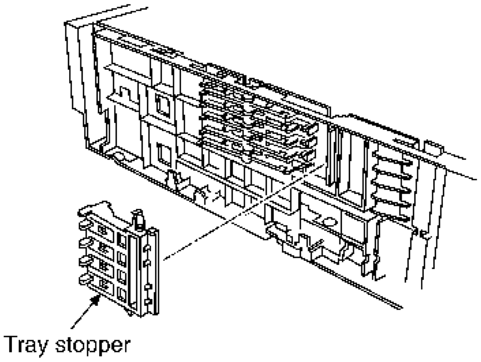
(Step 1)
Install the tray lock lever to mechanism base.


Tray lock lever
Upper side
Low side
Tray lock lever

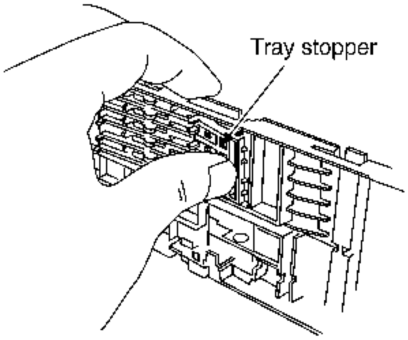
(Step 2)
Push the tray lock lever with a hand and install it.


Tray lock lever

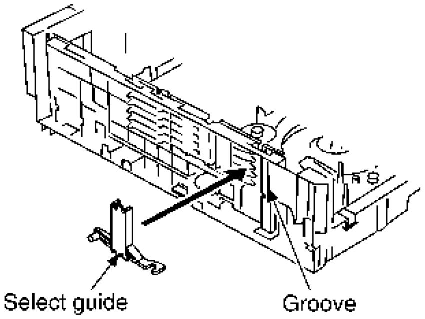
(Step 3)
Install the tray stopper to mechanism bese.


Tray stopper

(Step 4)
Push the tray stopper with a hand and install it.


Tray stopper

(Step 5)
Insert the select guide with a groove of the mechanism base and move it below.

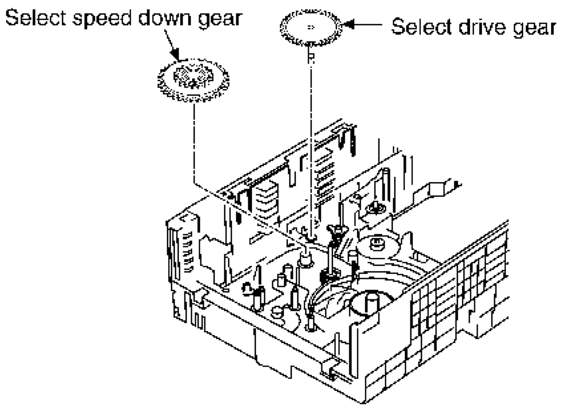

Select guide
Groove

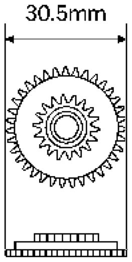
(Step 6)

Install the select speed down gear to mechanism base.

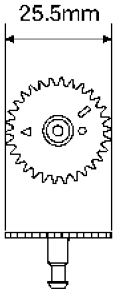
(Step 7)

Install the select drive gear to mechanism base.


Select speed down gear
Select drive gear



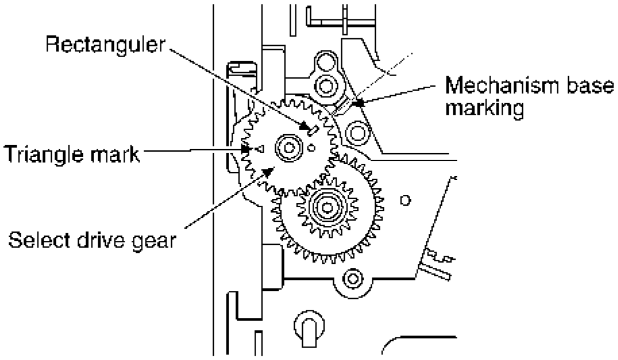
Select speed down gear
(White)



Select drive gear
(White)

(Step 8)

Fit a mechanism base marking to the rectanguler mark of gear so that the triangle mark can indicate the sideward direction.


Rectanguler
Mechanism base marking
Triangle mark
Select drive gear

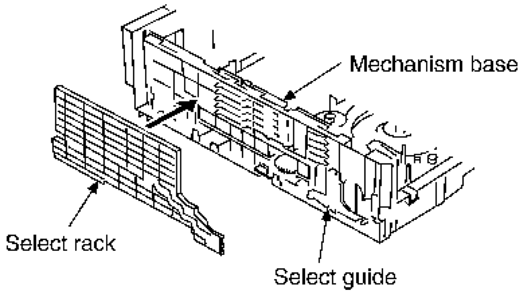
(Step 9)

Install the select rack to mechanism base.

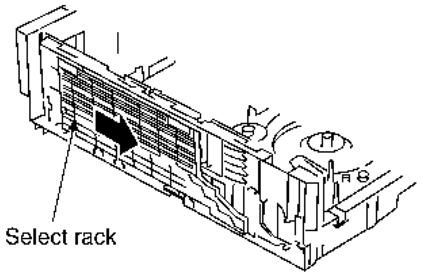
Checking items before the installation.

1. Check select guide is completely in lowest position.
2. Check its phase of select drive gear is correct position.(Rectangle/Trianguler mark)(Refer to Step 8)

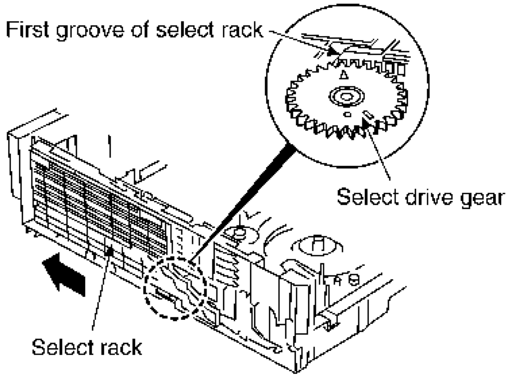
1. Put a select rack down with it fitted to its circumference of mechanism base.


Mechanism base
Select rack
Select guide

2. Slide the select rack with it's pushing to a little right direction and install it.

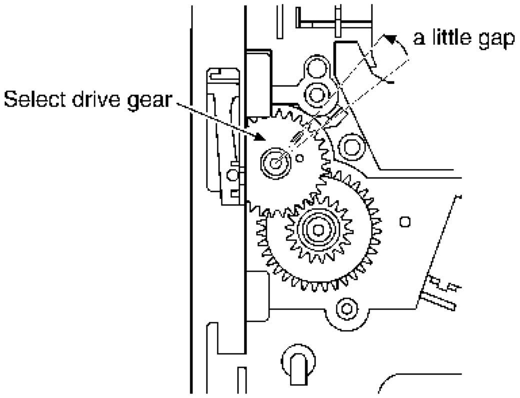

Select rack

(Figure to see from the inside)


First groove of select rack
Select drive gear
Select rack

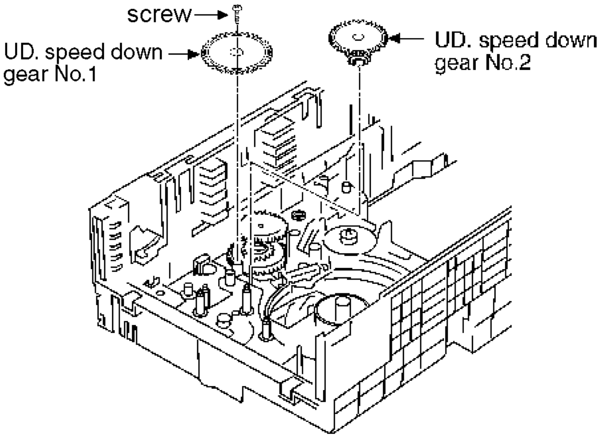
3. Check whether its end of triangular mark is in first groove of select rack, after fixing.
4. After insertion of select rack, continue the following work until the indication that it gose forward. And, all the while it must be checked that select rack is in the extreme end.

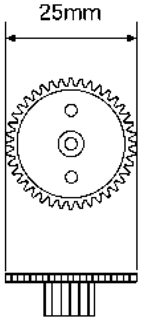
5. After insertion the select rack, the marking of select gear has a little gap when it is in the extreme end.


a little gap
Select drive gear

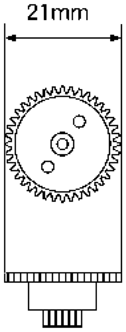
(Step 10)

Install the UD. speed down gear No.1 and UD. speed down gear No.2.


screw
UD. speed down gear No.1
UD. speed down gear No.2



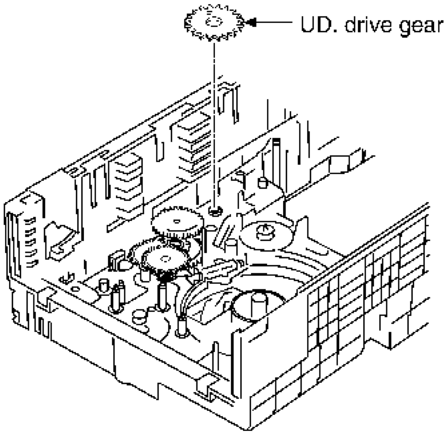
UD. speed down gear No.1 (White)

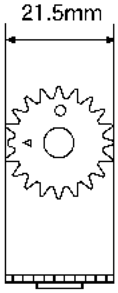


UD. speed down gear No.2 (Semi-transparent)

(Step 11)

Install the UD. drive gear to mechanism base.

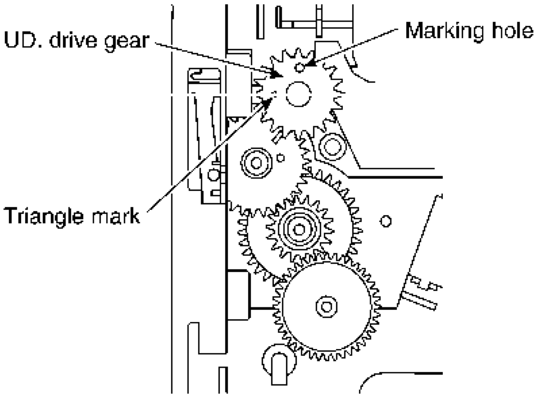

UD. drive gear



UD drive gear (White)

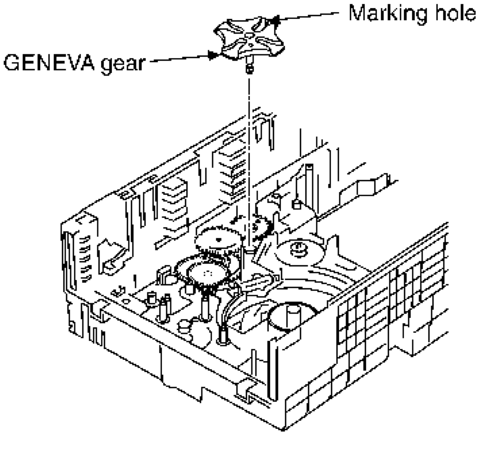
(Step 12)

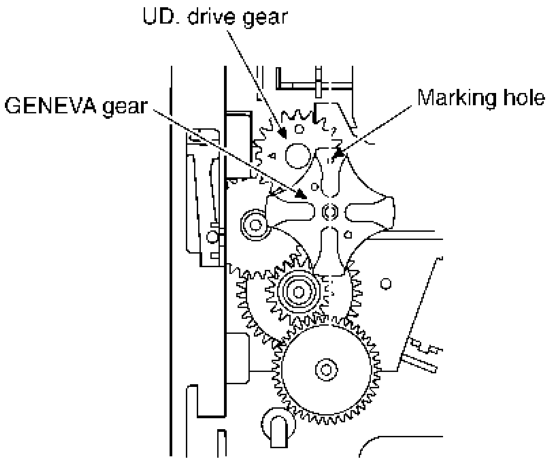
Insert the UD. drive gear with its marking hole upward. At that time, its triangle mark should be sideways.


UD. drive gear
Marking hole
Triangle mark

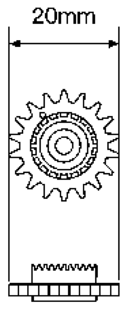
(Step 13)

Insert the GENEVA gear with its marking hole upward, and fix it by 2 hooks on bottom of mechanism base. At that time, UD. drive gear mustn't be moved.

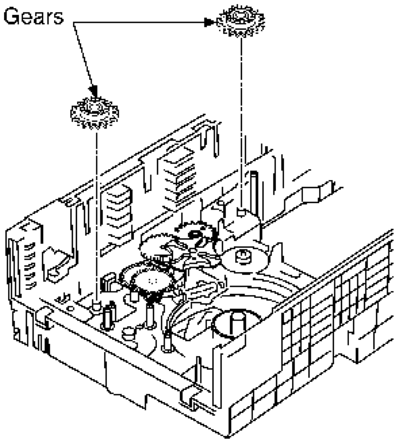

Marking hole
GENEVA gear


UD. drive gear
GENEVA gear
Marking hole

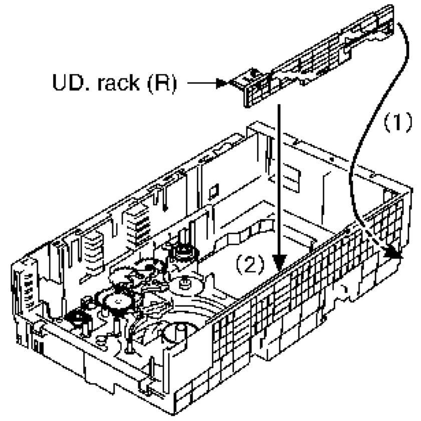
(Step 14)
Install the 2 gears to mechanism base.



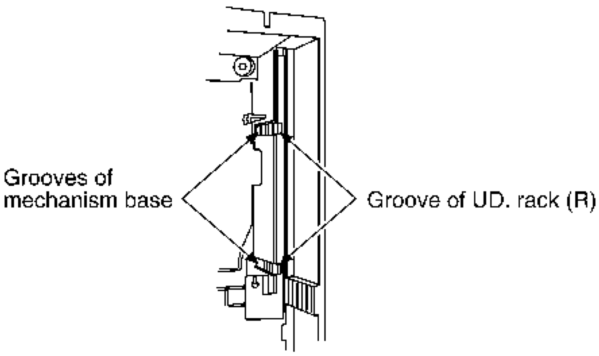
Gear (White)

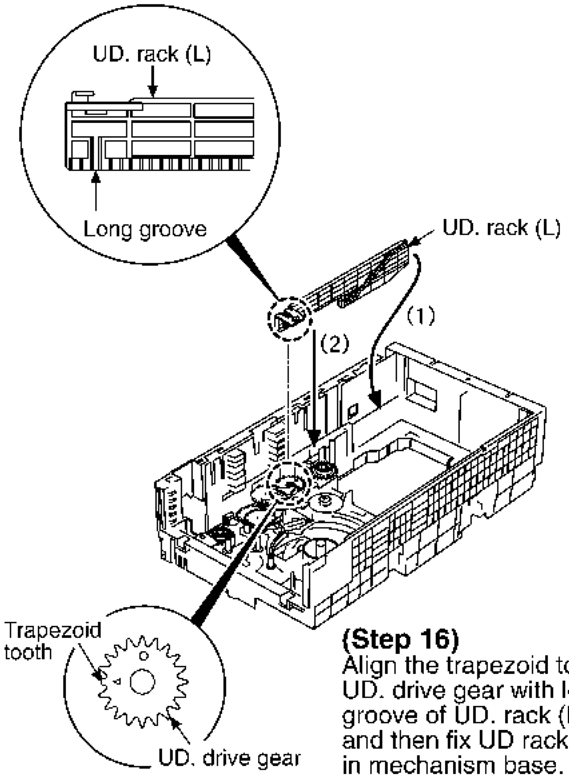


(Step 15)
Insert the UD. rack (R) to (2) from arrow (1).



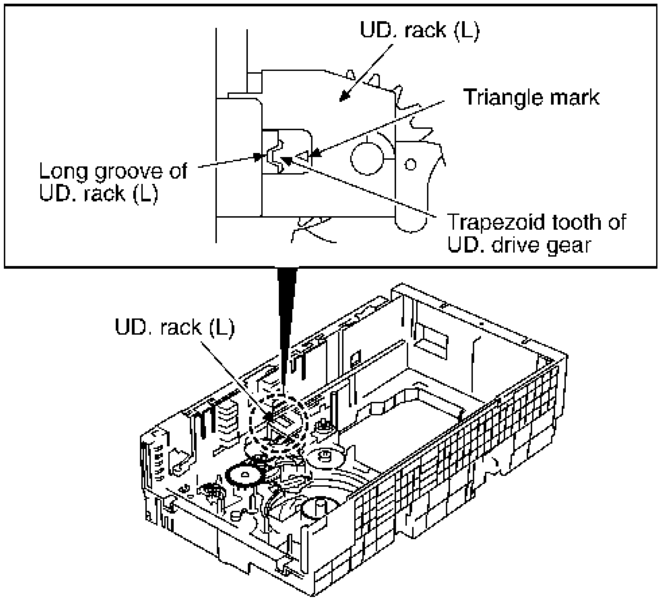
NOTE:
Put a groove of the mechanism base to the UD. rack (R).


Grooves of mechanism base
Groove of UD. rack (R)


UD. rack (L)
Long groove
UD. rack (L)
(1)
(2)
Trapezoid tooth
UD. drive gear

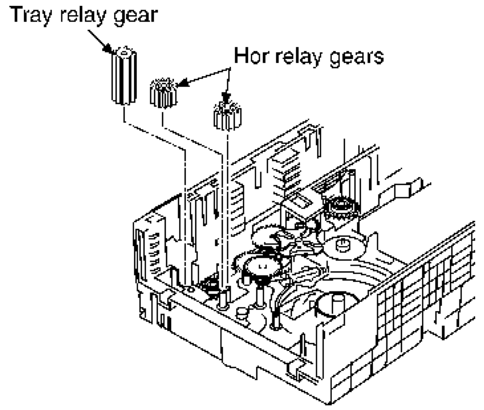
(Step 16)
Align the trapezoid tooth of UD. drive gear with long groove of UD. rack (L), and then fix UD rack (L) in mechanism base.

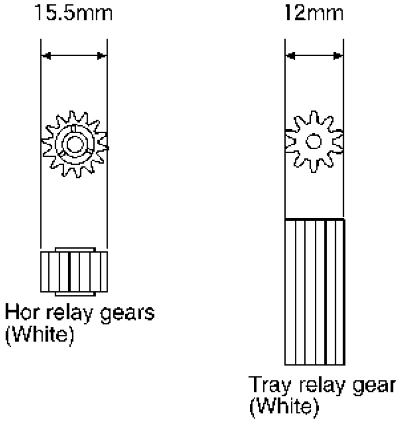
(Figure to see from the upper side)


UD. rack (L)
Triangle mark
Long groove of UD. rack (L)
Trapezoid tooth of UD. drive gear
UD. rack (L)

(Step 17)

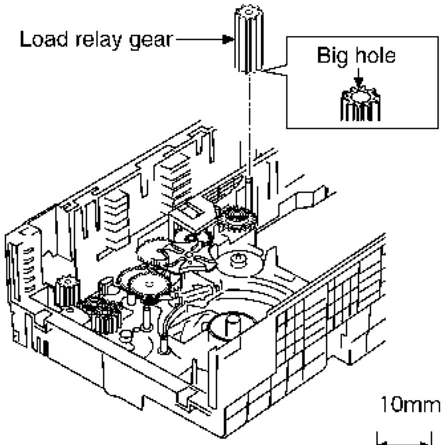
Install the tray relay gear and 2 hor relay gears.

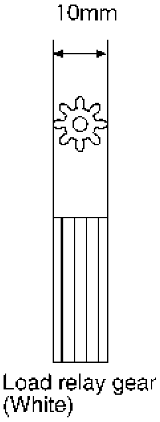

Tray relay gear
Hor relay gears


15.5mm
12mm
Hor relay gears (White)
Tray relay gear (White)

(Step 18)

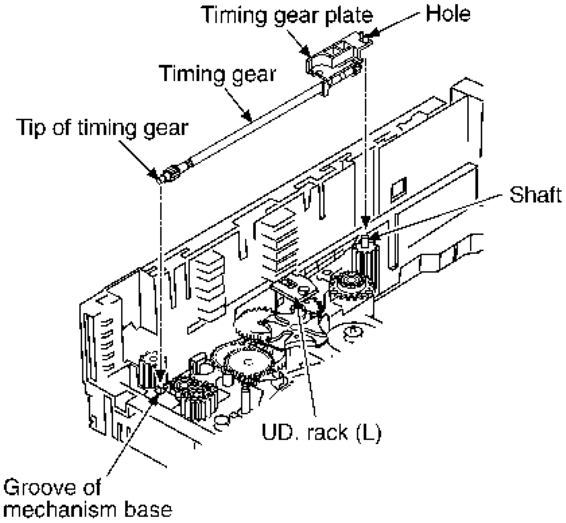
Install the load relay gear to mechanism base.
(Fit load relay gear with its big hole downward.)


Load relay gear
Big hole


10mm
Load relay gear (White)

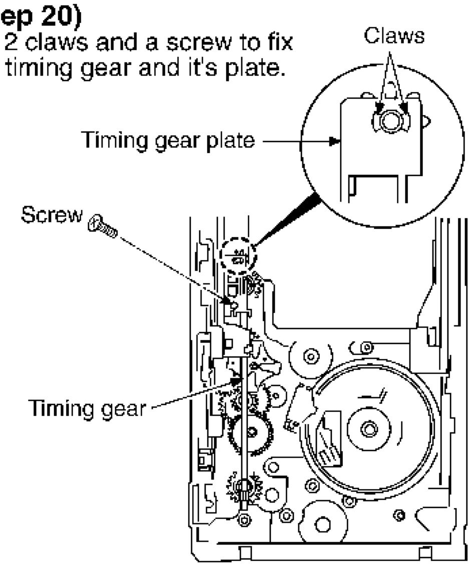
(Step 19)

Put on the top of the timing gear, then, install the timing gear and it's plate.
At that time avoid the UD. rack (L).


Timing gear plate
Hole
Timing gear
Tip of timing gear
Shaft
UD. rack (L)
Groove of mechanism base

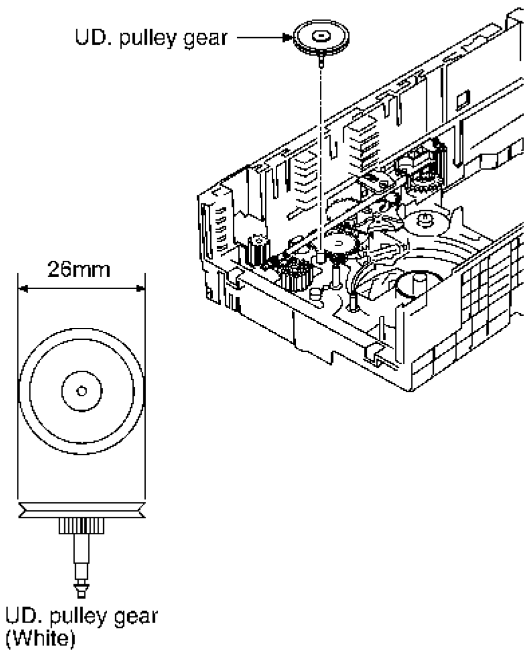
(Step 20)

Fix 2 claws and a screw to fix the timing gear and it's plate.


Claws
Timing gear plate
Screw
Timing gear

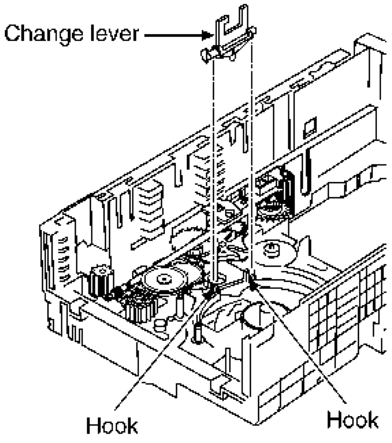
(Step 21)

Install the UD. pulley gear to mechanism base.


UD. pulley gear
26mm
UD. pulley gear
(White)

(Step 22)

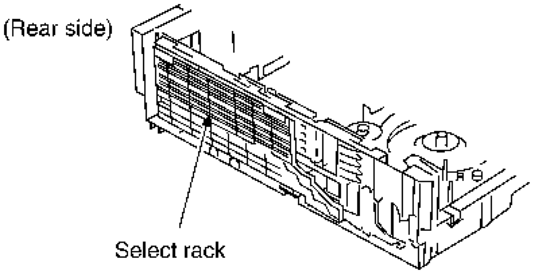
Insert the change lever with it upright.

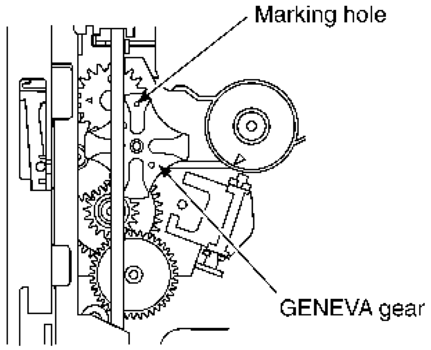

Change lever
Hook
Hook

(Step 23)

Be sure the notice of bellow before fixing the change gear.

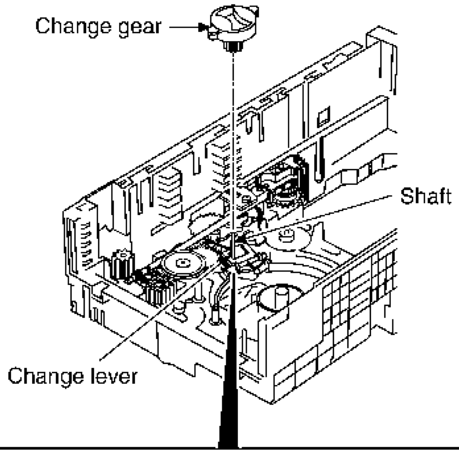
1. Select track should be in the rear of mechanism base.
2. Its hole of GENEVA gear should turn up.


(Rear side)
Select rack

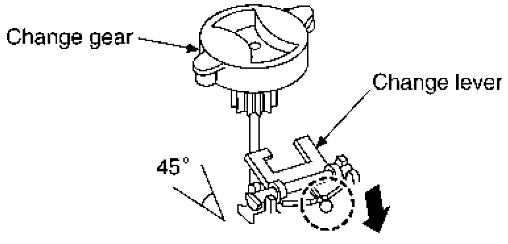

Marking hole
GENEVA gear

(Step 24)

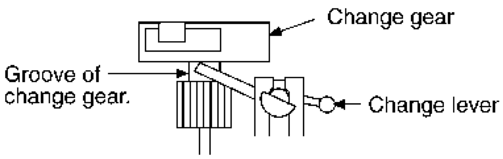
Install the change gear as insert the change lever into the groove of change gear.


Change gear
Shaft
Change lever

1. Pushing the ○ part and pull up the change lever 45°.


Change gear
Change lever
45°

2. Insert the change lever into the groove of change gear.


Change gear
Groove of
change gear.
Change lever

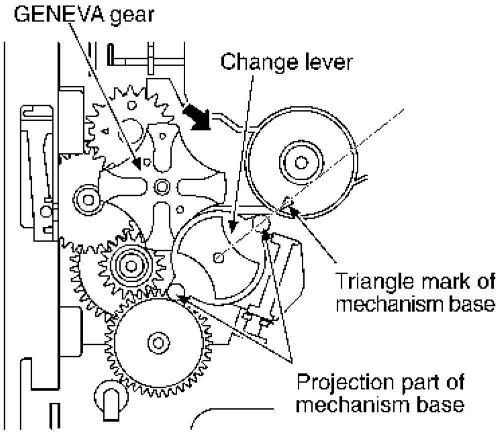
(Step 25)

Put change gear down with projection part of change gear fitted to triangle mark of mechanism base, when fixing change gear.

At that time, check change gear is inserted into the groove of change lever.

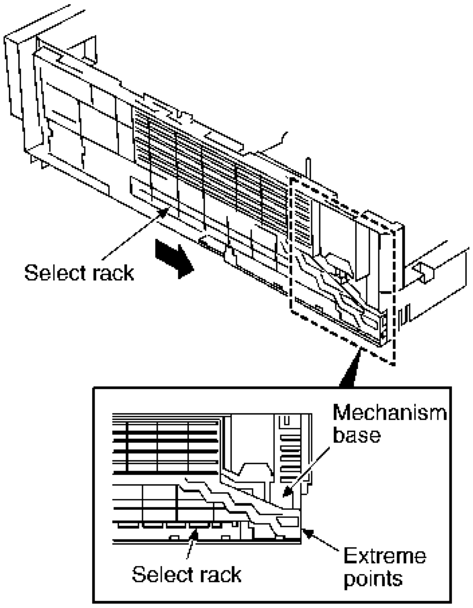
(Step 26)

Lastly, turn GENEVA gear clockwise slightly and drop change gear to mechanism base.


GENEVA gear
Change lever
Triangle mark of mechanism base
Projection part of mechanism base

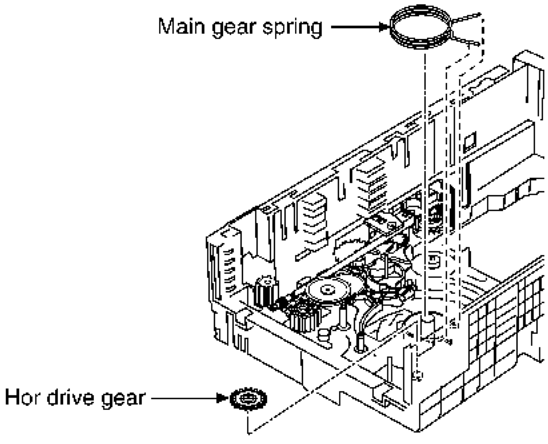
(Step 27)

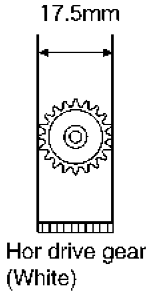
Move the select rack smoothly forward manually until 2 extreme points of both select track and mechanism base.


Select rack
Mechanism base
Select rack
Extreme points

(Step 28)

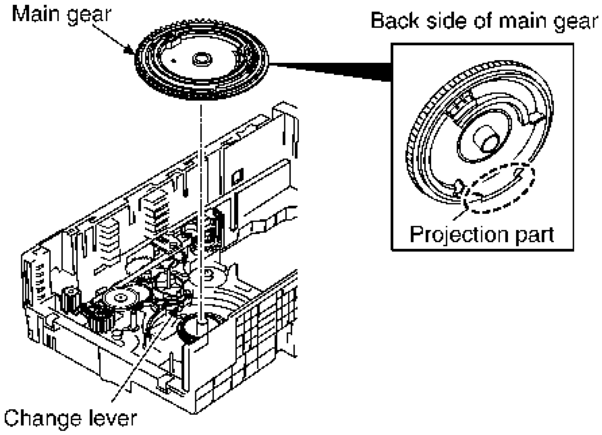
Install the main gear spring and hor drive gear.


Main gear spring
Hor drive gear


17.5mm
Hor drive gear
(White)

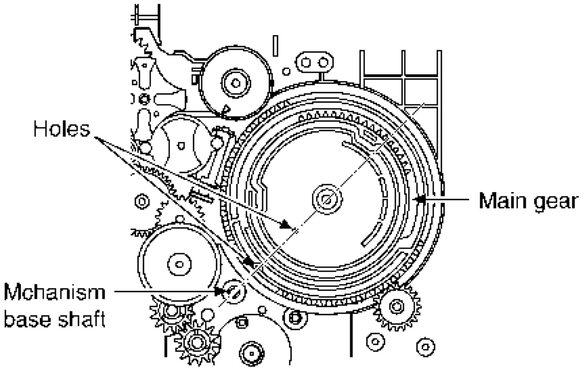
(Step 29)

Don't bring change lever into touch to projection part of main gear, when fixing main gear in mechanism base.

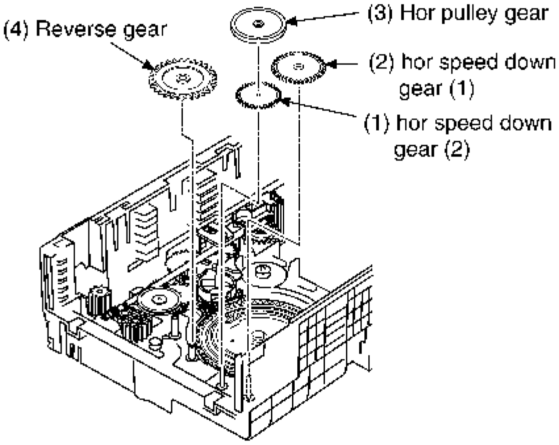

Main gear
Back side of main gear
Projection part
Change lever

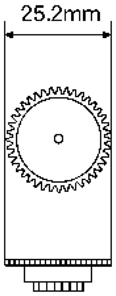
(Step 30)

After that, turn main gear so that 2 holes inside main gear would be in alignment with mechanism base.

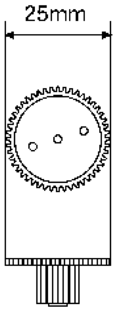

Holes
Main gear
Mchanism base shaft

(Step 31)
Install the hor speed down gear (2), hor speed down gear (1), hor pullry gear and reverse gear.

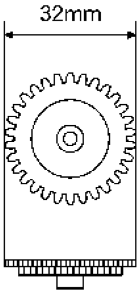

(4) Reverse gear
(3) Hor pulley gear
(2) hor speed down gear (1)
(1) hor speed down gear (2)



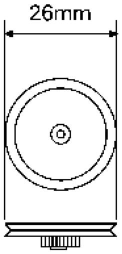
Hor speed down gear (2) (White)



Hor speed down gear (1) (Semi-transparent)



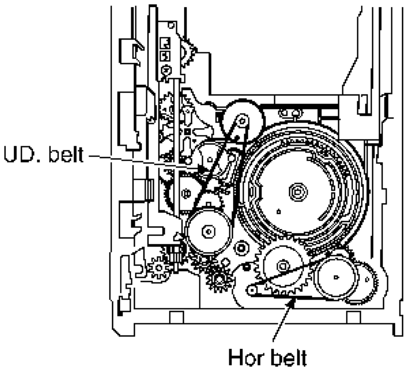
Reverse gear (White)



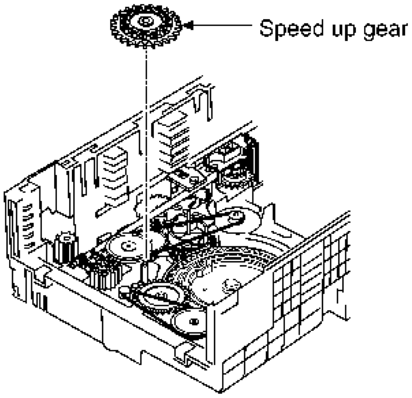
Hor pulley gear (White)

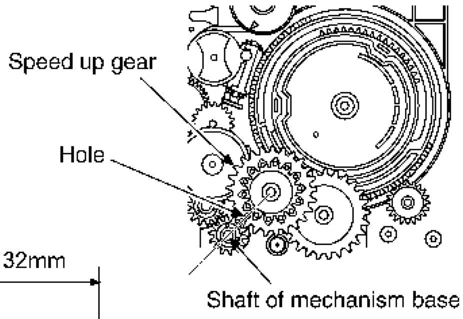
(Step 32)
Install the UD. belt and hor belt.

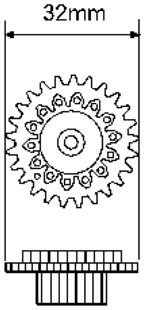
NOTE:
1. Take care not apply the grease to the belt.
2. Install the belt without twist.


UD. belt
Hor belt

(Step 33)
Install speed up gear to its shaft of mechanism base with 2 fitting.


Speed up gear

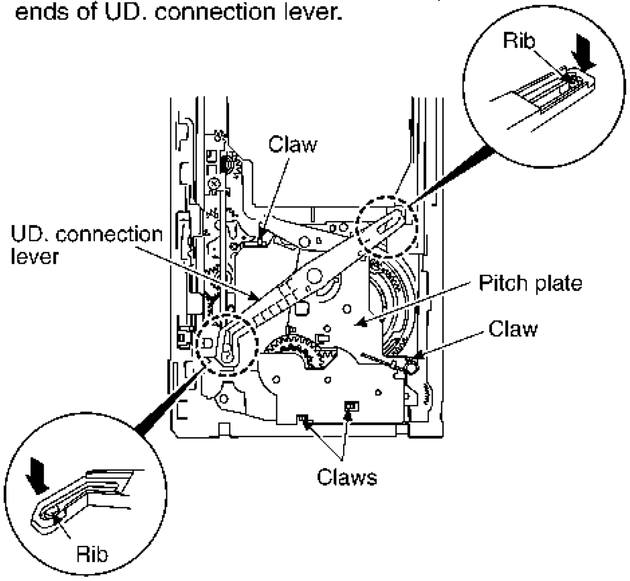

Speed up gear
Hole
Shaft of mechanism base



Speed up gear (White)

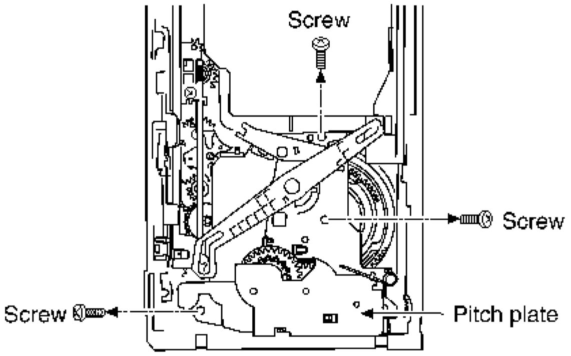
(Step 34)
Install the pitch plate. (The 4 claws should be latched.)

(Step 35)
Fix 2 ribs of UD. rack (L) and (R) into groove of both ends of UD. connection lever.


Rib
Claw
UD. connection lever
Pitch plate
Claw
Claws
Rib

(Step 36)

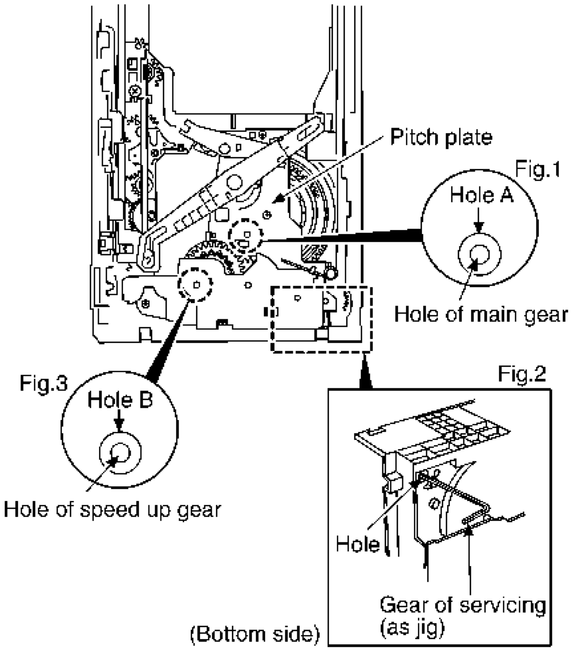
Fixed it by three screws further.


Screw
Screw
Screw
Pitch plate

(Step 37)

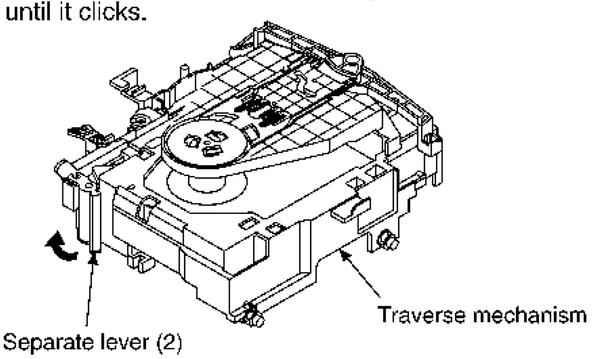
Be sure the notice of below before fixing the traverse mechanism.

1. Check that 2 holes of both pitch plate and main gear is fitted. (Refer to Fig.1)
   If it's not fitted, put the gear for servicing in the hole of the bottom side and adjust it. (Refer to Fig.2)
2. Check that 2 holed of both pitch plate and speed up gear is futted. (Refer Fig.3)
   If it's not fitted turn the speed up gear to adjust it.


Pitch plate
Fig.1
Hole A
Hole of main gear
Fig.3
Hole B
Hole of speed up gear
Fig.2
Hole
Gear of servicing (as jig)
(Bottom side)

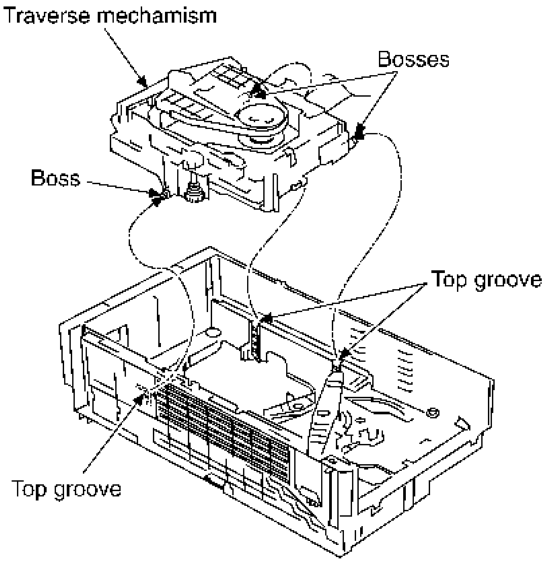
(Step 38)

Turn the separate lever (2) slowly toward left side until it clicks.


Separate lever (2)
Traverse mechanism

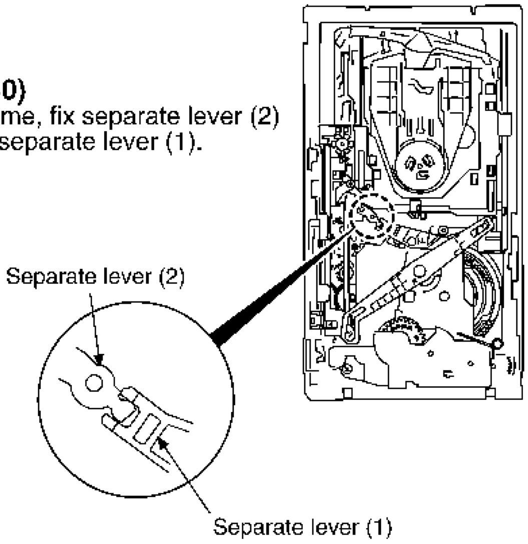
(Step 39)

Fix the left boss into the top groove of the UD. rack (L) and fix 2 bosses into the groove of the UD. rack (R).


Traverse mechamism
Bosses
Boss
Top groove
Top groove

(Step 40)

At that time, fix separate lever (2) into the separate lever (1).


Separate lever (2)
Separate lever (1)

(Step 41)

After the traverse mechanism fixed, confirm the phase in order below.

1. Check that 2 holes of both pitch plate and main gear is fitted. (Refer to Fig.1)
   If it's not fitted, put the gear for servicing in the hole of the bottom side and adjust it. (Refer to Fig.2)
2. Check that 2 holed of both pitch plate and speed up gear is futted. (Refer Fig.3)
   If it's not fitted turn the speed up gear to adjust it.

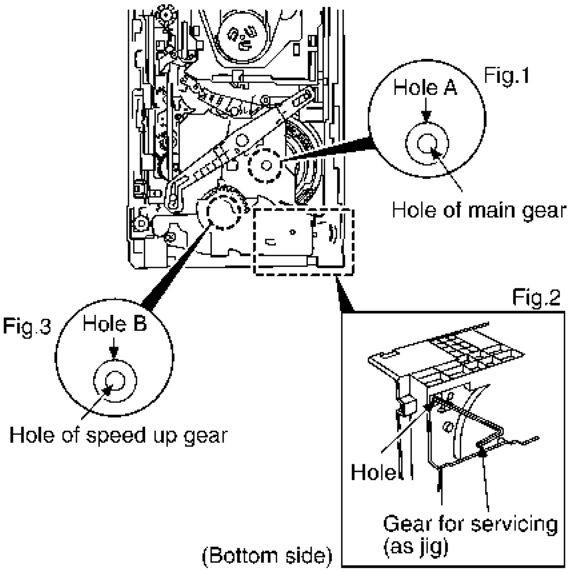
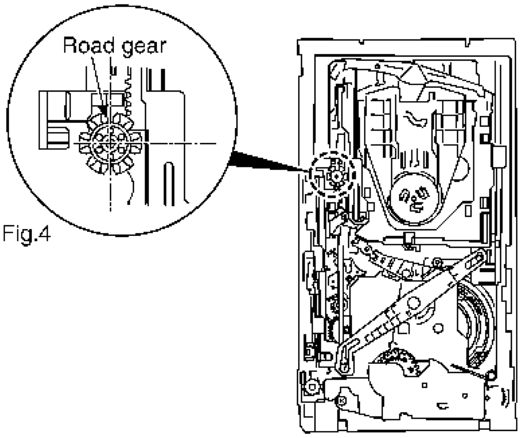


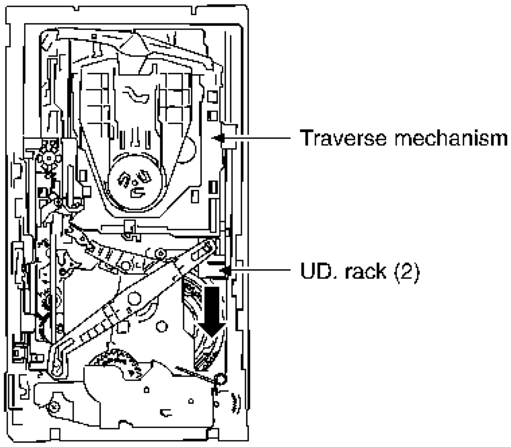
Fig.1
Hole A
Hole of main gear
Fig.2
Fig.3
Hole B
Hole of speed up gear
Hole
Gear for servicing (as jig)
(Bottom side)

3. In the cog of road gear, the groove with it's cutting halfway set side ward. (Refer to Fig.4)
   Remove the traverse mechanism again when it is not set side ward and install it after adjustment of inserting position.
   NOTE: By this time, do not adjust to rotate the road gear.


Road gear
Fig.4

(Step 42)

After insertion of traverse mechanism, pull the UD. rack (R) on this side that each phase is "OK" and then lock the traverse mechanism.

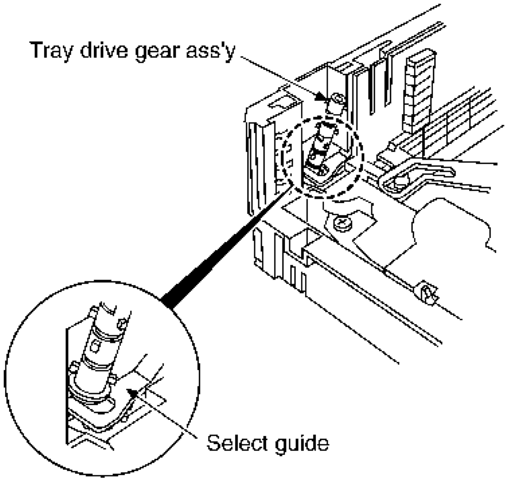

Traverse mechanism
UD. rack (2)

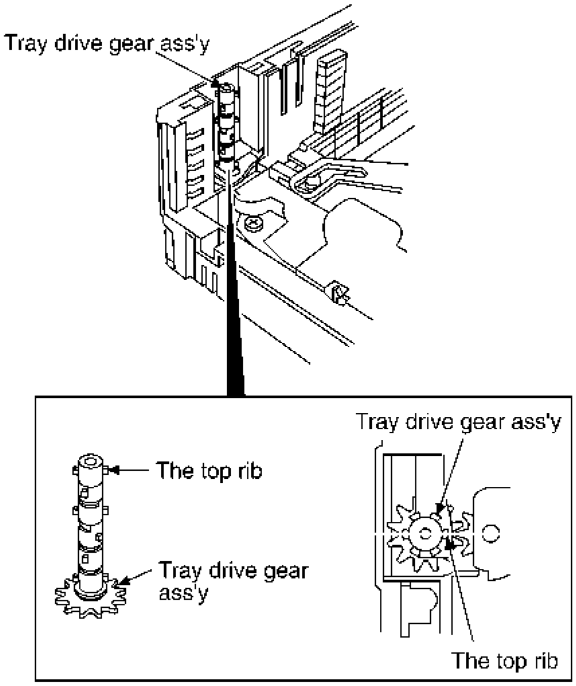
(Step 43)

Install the tray drive gear to select guide.
(Install the top rib of the tray drive gear with side ward.)

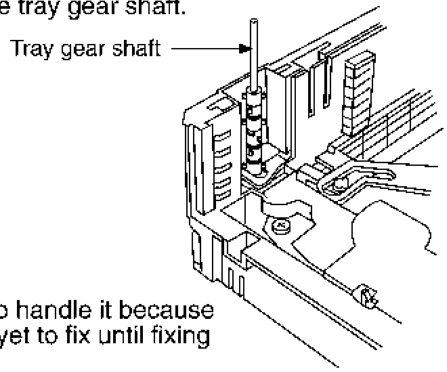
NOTE:

Confirm the each phase surely before install the tray drive gear. (Refer to Step 41).


Tray drive gear ass'y
Select guide

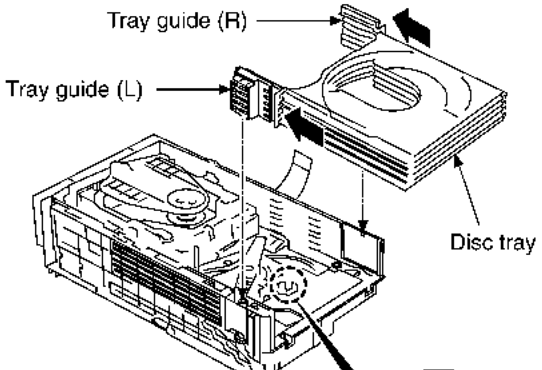

Tray drive gear ass'y
Tray drive gear ass'y
The top rib
Tray drive gear ass'y
The top rib

(Step 44)
Insert the tray gear shaft.

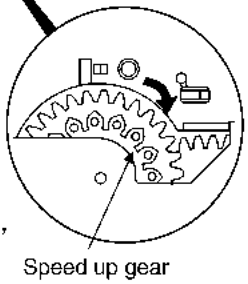

Tray gear shaft

NOTE:
Be careful to handle it because the shaft is yet to fix until fixing top cover.

(Step 45)
Move the tray guide (R) and (L) to direction of arrow that fixed (stopped) it and install 5 pieces of disc tray.

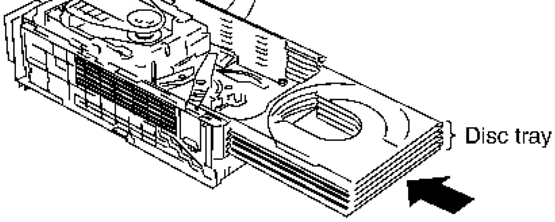

Tray guide (R)
Tray guide (L)
Disc tray

(Step 46)
Confirm that when the disc tray insert the upper side, the speed up gear is rotate clockwise a little.
- When the rotation of speed up gear is not clockwise or rotate, repeat from Step 45.
- Until the speed up gear rorate, repeat from Step 45 and 46.


Speed up gear

NOTE:
While keeping all postion, install 5 pieces of disc tray.

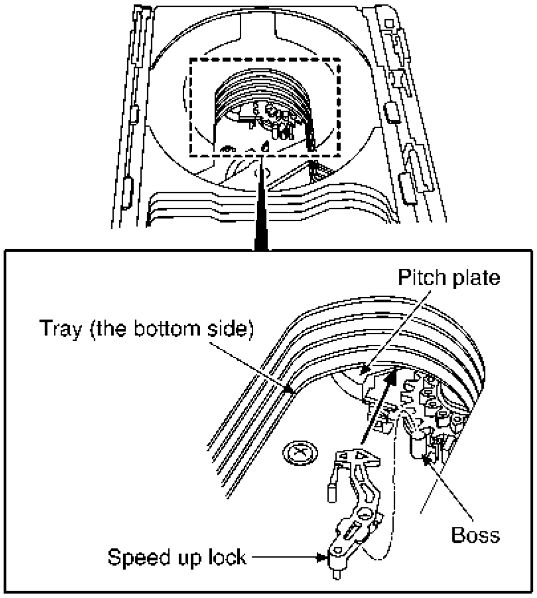
(Step 47)
Insert 5 pieces of disc tray at the same time until it's stop.



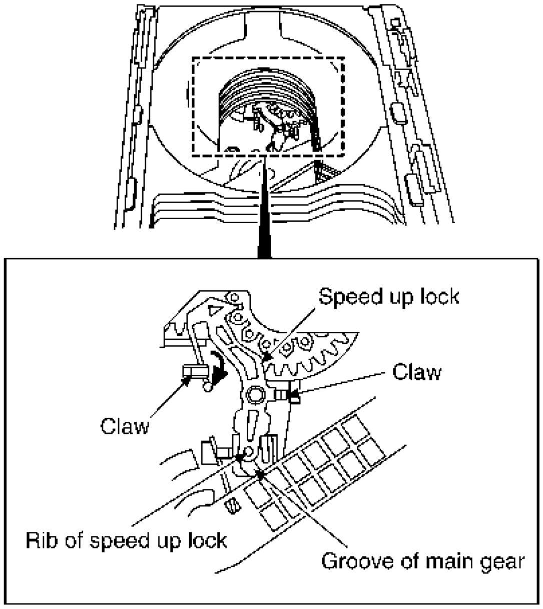
(Step 48)
Turn the traverse side 180°.

(Step 49)
While install the tip of speed up lock beween tray (No.1) of the most lower side and pitch plate for the time being.
(Do not to insert the cog of speed up gear), insert it to boss.

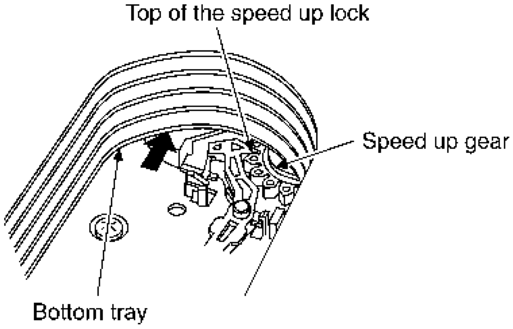
NOTE:
At that time, do not move the tray.
(See the tray the most front side)


Pitch plate
Tray (the bottom side)
Boss
Speed up lock

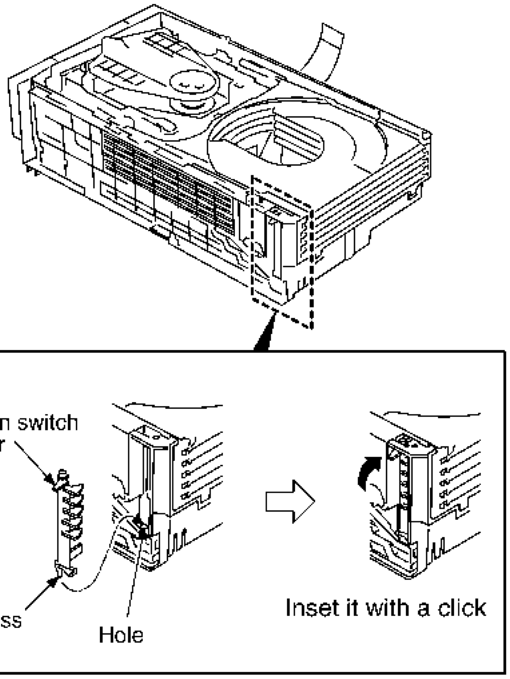
(Step 50)
Insert the rib of speed up lock into a groove of main gear, and lock it with 2 claws.


Speed up lock
Claw
Claw
Rib of speed up lock
Groove of main gear

(Step 51)
Move the bottom tray to the arrow while pushing the top of the speed up gear. And insert it to a cog of the speed up gear.

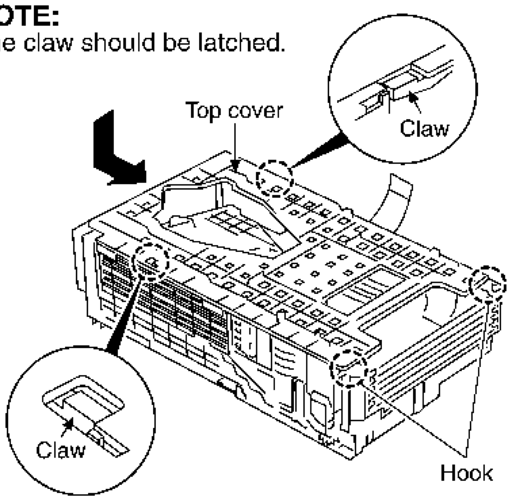

Top of the speed up lock
Speed up gear
Bottom tray

(Step 52)
Install the open switch lever.
(Put the boss into the hole of the mechanism base.)


Open switch lever
Boss
Hole
Inset it with a click

(Step 53)
Install the top cover.
Fix it into hooks and slide direction to the arrow.

NOTE:
The claw should be latched.

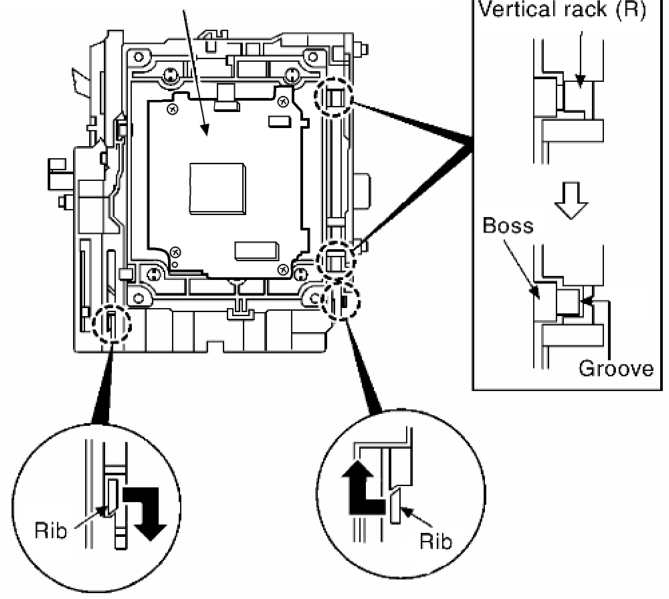

Top cover
Claw
Claw
Hook

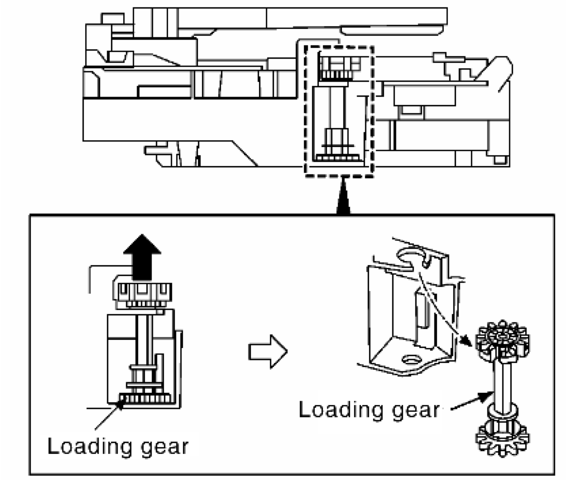
12.26. Disassembly of traverse mechanism

- Follow the (Step 1) - (Step 6) of Item 12.2.
- Follow the (Step 1) - (Step 4) of Item 12.3.
- Follow the (Step 1) - (Step 4) of Item 12.5.
- Follow the (Step 1) - (Step 4) of Item 12.8.
- Follow the (Step 1) - (Step 2) of Item 12.13.
- Follow the (Step 1) - (Step 4) of Item 12.16.

Step 1
Shift ribs of both side to the arrow direction.
(A vertical rack (R) slides and groove opens)

Step 2
Remove CD traverse deck.

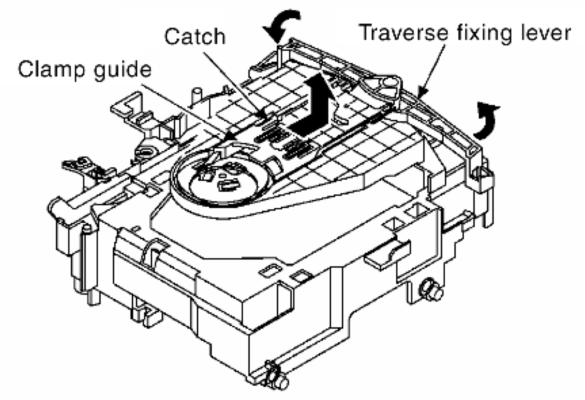

Vertical rack (R)
Boss
Groove
Rib
Rib

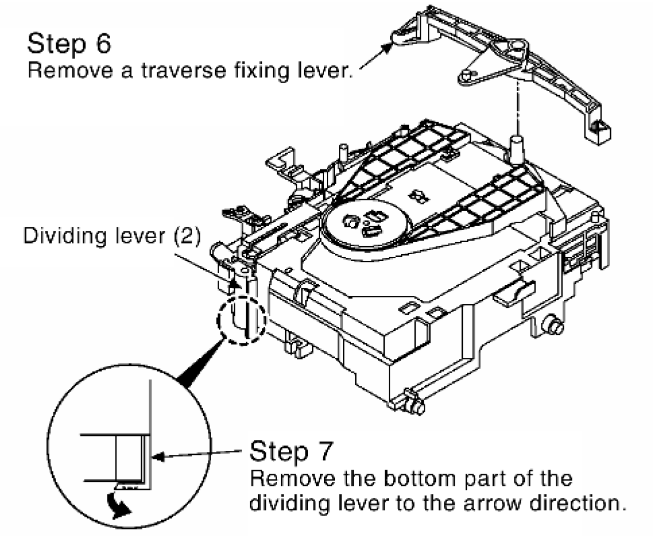

Loading gear
Loading gear

Step 3
Lift a loading gear slightly and pull out.

Step 4
Fixing lever to the arrow direction, rotate a traverse.

Step 5
Remove catch and take out a clamp guide.

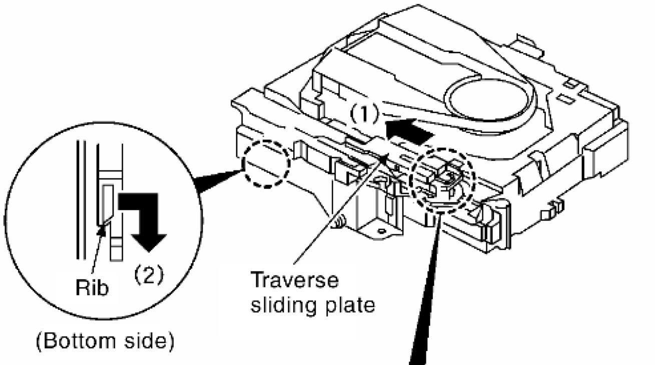

Catch
Traverse fixing lever
Clamp guide


Dividing lever (2)

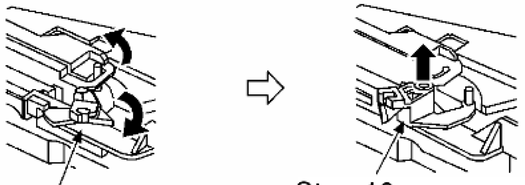
Step 6
Remove a traverse fixing lever.

Step 7
Remove the bottom part of the dividing lever to the arrow direction.

Step 8
Slide a traverse sliding plate to the arrow direction (1), and shift a rib to the arrow direction (2).

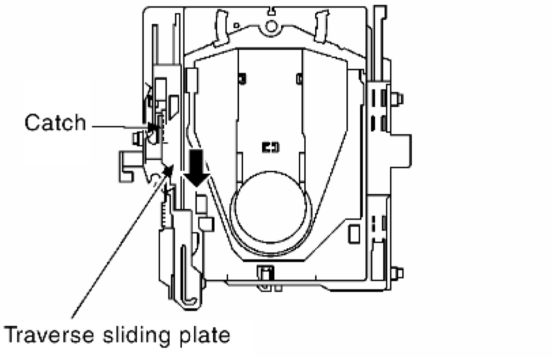

(1)
Rib
(2)
Traverse sliding plate
(Bottom side)

Step 9
Shifting a traverse sliding plate slightly and rotate a tray change lever.


Tray change lever

Step 10
Remove a tray change lever.

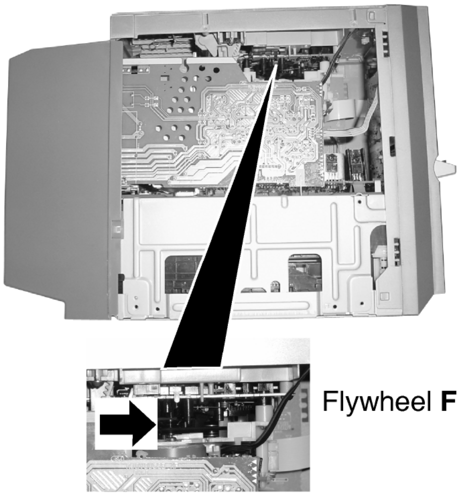
Step 11
Holding the catch down, slide a traverse sliding plate to the arrow direction and remove it.


Catch
Traverse sliding plate

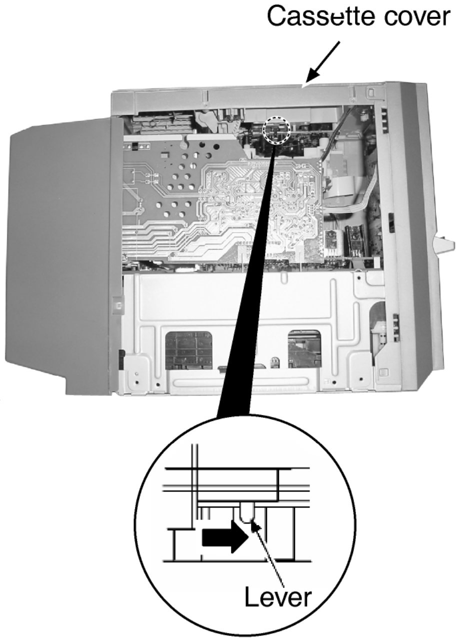
12.27. Handling of cassette tape jam

- Follow the (Step 1) - (Step 6) of Item 12.2.

Step 1
If the cassette tape is not ejected due to twining around capstan or pinch roller during playing or recording, rotate a flywheel **F** to the arrow direction to remove twined tape.



Step 2
Push the lever to the arrow direction, open the cassette cover and take out the cassette tape.


Cassette cover
Lever

13 Service Positions

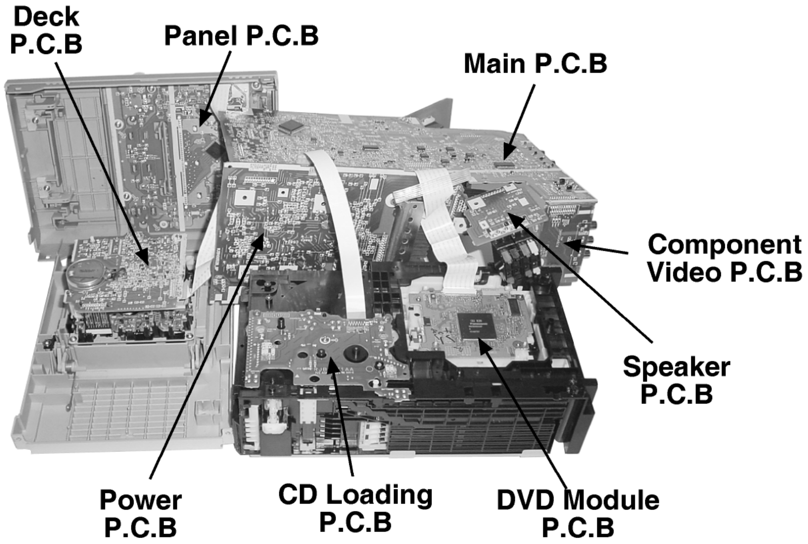
13.1. Checking procedure

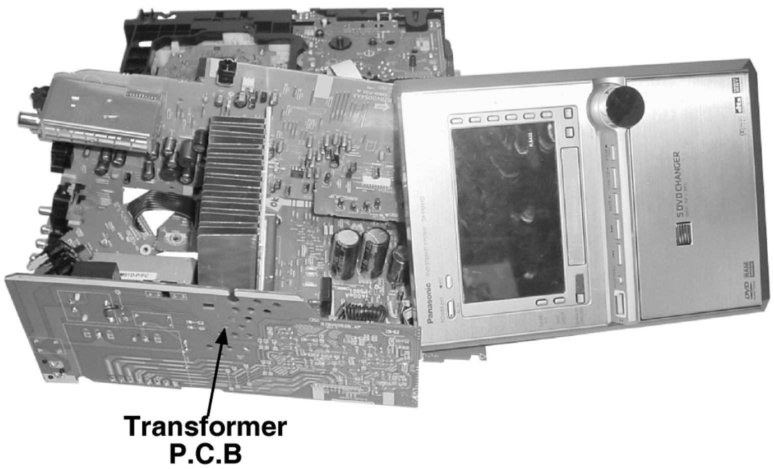
Note:

For the disassembling procedure, see the section 12.

13.2. Checking the major P.C.B.

1. Disassembly of Side Panel L & R
2. Disassembly of Top Cabinet
3. Disassembly of Deck Mechanism and Tape Eject P.C.B.
4. Disassembly of Front Panel
5. Disassembly of Panel P.C.B.
6. Disassembly of Switch P.C.B.
7. Disassembly of Rear Cabinet
8. Disassembly of Tuner Pack
9. Disassembly of Harmonic Bass P.C.B.
10. Disassembly of Component Video P.C.B.
11. Disassembly of Speaker P.C.B.
12. Disassembly of Main P.C.B.
13. Disassembly of Transformer P.C.B.
14. Disassembly of Power P.C.B.
15. Disassembly of DVD Mechanism


Deck P.C.B
Panel P.C.B
Main P.C.B
Component Video P.C.B
Speaker P.C.B
Power P.C.B
CD Loading P.C.B
DVD Module P.C.B


Transformer P.C.B

14 Self-Diagnosis Function

This unit is equipped with the self-diagnosis function, which displays an error when it occurs, for use during servicing.

14.1. Automatic Displayed Error Codes

14.1.1. Automatic Display Function

For a power unit error, the code is automatically displayed.

F61: Automatically displayed on the LCD of the player.

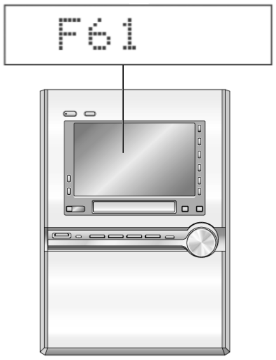


Fig. 14-1

14.1.2. Re-Display

- **For F61 Display**
  - When the code, F61 is displayed, the power is automatically turned off.
  - The code, F61 is displayed for three seconds, and then the current time appears.
  - To retrieve the code, turn on the power button so that the code F61 appears, however, is switched to time display after three seconds, and the power is automatically turned off.
- **For F76 Display**
  - The abnormalities of an output or abnormalities in the power supply of POWER AMP IC.

14.1.3. Description of Error Code

14.1.3.1. F61

- **State, Condition**

  When the power is turned on, the unit is automatically turned off. The power does not turn on.
- **Cause, Troubleshooting**

  Power circuit system failure and/or direct current flown to speaker terminal
  Identify the cause and replace with new parts.

14.1.4. Setting of Self-Diagnostic (Test Mode)

a) Turn on power for unit.

b) Select DVD/CD Mode. Ensure no disc is inserted in the unit.

c) Press and hold [STOP] and [H.BASS] button for at least 2 seconds. It enters into test mode.

d) Press [POWER] button on the main unit or remote control to exit test mode.

14.2. Memorized Error Codes

14.2.1. Activating Self-Diagnosis Function and Displaying Method

1. Turn on the power.
2. Select DVD/CD function. With no DVD/CD inserted in the player, press and hold down the [STOP] button for at least two seconds, and press the [0] button on the remote control for at least two seconds in order to display “DVD_xxx ”.
3. Press the [STOP] button. If a memorized error is detected, the result of self diagnosis is displayed. (Ex.: H15)
   If several errors are detected, press the [STOP] button to display each.

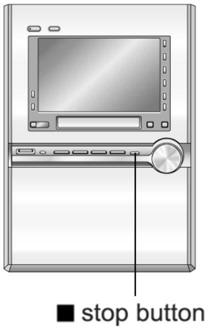


Fig. 12-2

14.2.2. Re-Display

- Press the power button to turn off the power, and then turn on the power.
- The details of self diagnosis are stored in the unit memory.
  To retrieve them, follow the procedure described the above, “Activating Self-Diagnosis Function and Displaying Method”.

14.3. Opecon Version and EEPROM Checksum Display

- Display of Opecon Version and EEPROM checksum if EEPROM exists.
-

1. with EEPROM (verification OK)

012 AB0F

Opecon Version Check Sum

2. No EEPROM

012 NO

Opecon Version

3. with EEPROM (verification NG)

012 ERR

Opecon Version Check Sum

- During check sum display, if any valid remocon code is received, check sum display cancelled.

14.4. Service Mode Table 1

Following modes are available with combinations of the pressed buttons on the player and on the remote controller unit.

Player	Remote controller unit	Usage
■ button	0	Error code display
	5	Tilt adjustment
	6	Region number and broadcasting system check
	7	Built-in program version check
	DISPLAY	DVD laser drive current check
	3	CD laser drive current check
	PAUSE	Writing of laser drive current value after replacement of optical pickup (Do use this function only when optical pickup is replaced.)
	≥10	Initialization of the player (factory setting is restored.) Used after replacement of micro-computer and its peripherals and printed circuit board.

14.5. Self-Diagnosis Error Code Description

Code Display	Abnormal Item	Detection Method
F61	Abnormal output or power supply	When DCDET becomes L while operating, PCONT is set to L without usual POWER OFF processing, and F61 is displayed after GOOD-BYE display. Occurrence of abnormality shall be memorized and displayed in the abnormal detection display mode.

Code Display	Abnormal Item	Detection Method
H15	OPEN SW	It is memorized if there is abnormal SW while operation, and is fail-save operation, and an abnormal content is displayed by the self-diagnostic mode usually. Abnormal SW is detected in the abnormal detection mode.
H16	CLOSE SW	
CD F28	The DISC loading is abnormal	Memory when switch is not changed even if it exceeds it to time of fail safe time when horizontally operating toward PLAY position doesn't enter state of target. When mechanism begins to operate next time, initialization is done. Only when backup data is cleared clearly of this error No. when it compels clearly or power supply start-up.
CD F29	The DISC unloading is abnormal	
CD F27	DOWN SW is abnormal	
CD F22	Mechanism is loading motor/abnormal	

14.6. DVD/CD Self-Diagnosis Error Code Description

Abnormal display	The error is detailed
U11	Focus servo failure
H01	Tray loading failure
H02	Spindle servo failure
H03	Traverse motor failure
H04	Tracking servo error
H05	Seek timeout failure
F010	A specified value is larger than the Parental value of a specified country.
F020	There is no TT_SRPT. (RLBN is 0.)
F021	The number of TT_SRP is 0.
F022	A specified value is larger than the number of TT_SRP.
F023	There is no SRP corresponding to VTSN or VTS_TTN.
F024	A specified value is larger than TT_SRP.PTT_Ns.
F030	The number of TTU_SRP is 0.
F031	A specified value is larger than the number of TTU_SRP.
F040	SRP1 or more is 0.
F041	The number of PGCI_SRP is 0.
F042	A specified value is larger than the number of PGCI_SRP.
F043	There is no PGCI_SRP corresponding to Menu ID.
F050	The number of TMAP_SRP is 0.
F051	A specified value is larger than the number of TMAP_SRP.
F052	Specification TMAP_SA is 0.
F053	The number of MAP_EN is 0.
F060	There is no PGMAP in PGC though C_POSIT exists.
F061	The number of PG in PGC is 0 though C_POSIT exists.
F062	A specified value is larger than the number of PG in PGC.
F063	There is no C_PBIT in PGC though C_POSIT exists.
F064	The number of PG in PGC is 0 though C_POSIT exists.
F065	Specification Cell number is 0.
F066	A specified value is larger than the number of Cell in PGC.
F067	It should be a block cell.
F070	It is not NV_PCK data.
F080	There is no Cell number under the retrieval.
F0E0	The PGC control file for the guide of the user ..DFD.. cannot be eliminated.
F0E1	There is no DFD interchangeable type with DFD main microcomputer. It is not possible to download it.
F0E2	DFD starting download PGC reproduction error
F0E3	DFD download completion waiting PGC reproduction error
F0E4	AVDEC when DFD is downloaded
F0E5	Farm file lead error when DFD is downloaded
F0E6	Falsification check error of firmware that reads DFD
F0F0	There is no farm file and it downloads it DFD unnecessary.
F0F1	There is no firmware corresponding to the DFD download condition and it is unnecessary.
F103	Illegal Highlight Position
F4FF	There was no ACK though the compulsion initialization demand was done to Panecon.
F500	DSC Error
F501	DSC Not Ready Error
F502	DSC Time Out Error
F503	DSC Communication Failure
F504	The DSC data slice offset adjustment is abnormal.
F505	DSC Attention Error
F506	Media cannot distinguish. (It is invalid media.)
F600	Administrative information cannot be acquired by the recovery error.
F601	Irregular sector ID demand
F602	LEAD-IN information cannot be acquired by the recovery error.
F603	KEY_DET cannot be acquired by the recovery error.

Abnormal display	The error is detailed
F610	ODC loss of control
F611	CRCOK doesn´t go out during the fixed time. (CD system)
F612	CRCOK doesn´t go out during the fixed time. (DVD system)
F620	Laser protection"State of high temperature"
F621	Laser protection"State of circuit breakdown"
F700	MBX Overflow
F701	Message Command Not Complete Error
F702	Message Command Changed
F880	The task number is inapposite.
F890	It tried to transmit the message while transmitting to the AV task.
F891	The message to the AV task was not able to transmit. (mailbox overflow etc.)
F8A0	The message command is inapposite.
F893	Flash ROM is falsified.
F894	EEPROM, it is not normal.
F895	The language destination is abnormal.
F896	It is a model setting that doesn´t exist.
F897	Cannot it written and the following initialization been done.
F0BB	DVD-R cannot reproduce.
F0BC	DVD-RAM cannot reproduce.
F0BD	CD-R cannot reproduce. Reservation..display.
F0BE	CD-RW cannot reproduce. Reservation..display.
F0BF	Because a physical layer cannot distinguish, it is not possible to reproduce.
F0C0	It is not DVD Video but it cannot be a reproduction.
F0C1	It prohibits it for the prohibition region code.
F0C2	Reproduction prohibition of PAL
F0C3	All title reproduction prohibition of Parental setting
F0C4	Because it is PHOTO CD format, it prohibits it.
F0C5	Because it is CDROM without VCD/CD:CD-DA, it prohibits it.
F0D0	Length error of retrieved file name
F0D1	Retrieved file or directory was not found.
F630	Non-response to KEY_DET inquiry (It is not CPPM-DISC.)
F631	Even the FILE terminal cannot have done CPPM_KEY_DET.
F632	CPPM_KEY_DET cannot have been done.
9312	ADR is not one.
9F20	OUT of PB AREA
9F30	DATA Track PLAY
9F40	Media type decision (It is data among the drive managers.)

14.7. Service Mode Table 2

Following modes are available with combinations of the pressed buttons on the player and on the remote controller unit.

Item	Operational Condition and Key Function	Details	Display	To Exit Mode
Error code display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button, “0” on the remote controller unit.	Error code display Displays the latest error code stored in EEPROM.	[DVD_---] *---: Error number	Automatically exits the mode after five seconds.
ADSC internal RAM display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button “1” or “2” on the remote controller unit.	ADSC internal RAM display Reads and displays the RAM value inside ADSC. The address is renewed when the CLEAR key is pressed so that the values at eleven points appear.	[xxx _DDDD_A] A :ADSC internal RAM display mode xxx : Address DDDD : RAM value at displayed address Values are shown in the hexadecimal digit. The above example indicates that ADSC value at the address, xxx is DDDD.	Press the STOP.

Item	Operational Condition and Key Function	Details	Display	To Exit Mode
Measurement of CD laser current electricity	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button "3" on the remote controller unit.	Measurement of CD laser current electricity Measures CD laser current electricity and displays the result together with the initialization value stored in EEPROM. After measurement, CD laser is lit till the power is turned off (or goes off when the primary power is turned off).	[xxx_yyy_DC] DC : CD laser current electricity measurement mode xxx : Current electricity initialization value stored in EEPROM yyy : Present value of current electricity Values are shown in the decimal digit. The above example indicates the current electricity initialization value is xxx mA and its present value is yyy mA when laser is turned on.	Automatically exits the mode after five seconds.
Display the device name	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button "4" on the remote controller unit.	Display the device name	[xxxxxxxxxx]	Automatically exits the mode after five seconds.
Jitter display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button, "5" on the remote controller unit.	Jitter display Measures and displays jitter. Measurement is repeated every second. Read error counter starts at 0 at the mode setting, and increased by one as data read fails at target block. A small defect is allowed to correct by retry. Any possibility is counted as one increment. Repetitive errors after retry increase by two levels or more.	[xxx_yyy_zz] xxx : Jitter measurement value yyy : Read error counter zz : Focus driving value Values are shown to one decimal place in the decimal digit.Focus driving value is displayed in the hexadecimal digit.	Press the STOP.
Region display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button, "6" on the remote controller unit.	Region display	[u__w_xy_zzz] w : Region number u x : N noPAL P PAL y: N NTSC 6 PAL60 zzz: Paneconjampa information	Automatically exits the mode after five seconds.
Firm version display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button, "7" on the remote controller unit.	Firm version display	[srrrxxyzzz] s : Model type of Panecon rrr : Release number of Panecon xxx : Generation of Shiscon (26) y : Model type of Shiscon zzz : Release number of Shiscon	Automatically exits the mode after five seconds.
Region and firm display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button, "8" on the remote controller unit.	Region and firm version display	[__r__xyzzz] r : Region number x : Generation of Shiscon y : Model type of Shiscon zzz : Release number of Shiscon	Automatically exits the mode after five seconds.
User initialization	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the number button ≥10 on the remote controller unit.	User initialization The user setting recovers the factory setting.	[_INITIALIZE_]	Automatically exits the mode after five seconds.
DVD reset	While the user initialization, press and hold down the [STOP] button on the player and the number button "ENTER" on the remote controller unit.	DVD reset The user setting is returned in the state of the factory shipment. It doesn´t initialize it at the time of the laser and the time of the spindle to develop a model table initial value of the corresponding number referring to Paneconjampa.	[_DVD_RESET_ _]	Automatically exits the mode after five seconds.

Item	Operational Condition and Key Function	Details	Display	To Exit Mode
Laser use time	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the ▲ button on the remote controller unit.	Laser usage time Measures each for DVD and CD respectively.	[_1234_5678] The numbers in the left show usage time for DVD laser and those in the right for CD laser. The four-digit number is shown by the ten hours in the decimal digit. The number after 0000 is 9999.	Automatically exits the mode after five seconds.
Reset laser use time	While the usage time 1 is displayed, press and hold down the [STOP] button on the player and the ▼ button on the remote controller unit.	Laser usage time reset Resets both for DVD and CD at once.	[_0000_0000]	Automatically exits the mode after five seconds.
Spindle use time	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the ► button on the remote controller unit.	Spindle motor usage time	[_00_30__ERR] The four-digit number is shown by the ten hours in the decimal digit. The number after 00_00 is 99_99.	Automatically exits the mode after five seconds.
Reset spindle use time	While the usage time 2 is displayed, press and hold down the [STOP] button on the player and the ◄ button on the remote controller unit.	Usage time 2 reset Spindle motor usage time	[_00_00__ERR]	Automatically exits the mode after five seconds.
Communication error display	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the “MENU” button on the remote controller unit.	Displays frequency of communication errors between system computer firm IC and mechanical computer IC during DVD module.	[_00_00__ERR]	Automatically exits the mode after five seconds.
Measurement of laser current electricity initialization value	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the “PAUSE” button on the remote controller unit.	Measurement of laser current electricity initialization value Memorizes each initialization value of DVD and CD in EEPROM.	[xxx_yyy_DO] DO : Laser current electricity measurement mode xxx : DVD current electricity value yyy : CD current electricity value Values are shown in the decimal digit. The above example indicates that the current electricity initialization value is xxx mA at DVD laser and yyy mA at CD laser when laser is turned on.	Automatically exits the mode after five seconds.
Measurement of DVD laser current electricity	While the player is stopped and no disc is inserted, press and hold down the [STOP] button on the player and the “DISPLAY” button on the remote controller unit.	Measurement of DVD laser current electricity Measures DVD laser current electricity and displays the result together with the initialization value stored in EEPROM. After measurement, DVD laser is lit till the power is turned off (or goes off when the primary power is turned off).	[xxx_yyy_DD] DD: DVD laser current electricity measurement mode xxx: Current electricity initialization value stored in EEPROM yyy: Present value of current electricity Values are shown in the decimal digit. The above example indicates that the current electricity initialization value is xxx mA and its present value is yyy mA.	Automatically exits the mode after five seconds.

14.8. Tray Lock Function

14.8.1. Setting

- **Disc Lock Function**

1. With the SELECTOR on DVD/CD and POWER ON, hold down the [STOP] KEY on the main unit, and then press the [POWER] KEY on the remote control for 3 seconds to enter to Lock mode A.[_ _ _LOCKED_] will be displayed for 3 seconds, and then current disc will begin playing.
2. In Lock mode A, the following key is disabled.

[OPEN/CLOSE]

- **Operation Lock Function**

  1. With the SELECTOR on DVD/CD and POWER ON, hold down the [DVD/CD] KEY on the main unit, and then press the [POWER] KEY on the remote control for 3 seconds to enter Lock mode B.

     [_ _ _ LOCKED_] will be displayed for 3 seconds, and the current disc will begin playing.
  2. Lock mode B primarily controls the selector and disc operations, and disenables for the following keys.

  Note:

  OPEN/CLOSE ⏏ button are invalid and the player displays "___LOCKED_" while the lock function mode is entered.

14.9. Things to Do After Repair (Precaution)

Follow the procedure described below after repair.

1. While the power is on, press the ⏏ button to close the tray.
2. Press the power button to turn off the power.
3. Unplug the power cable.

Note:

It is prohibited to unplug the power cable while the tray is opened and to close the tray manually.

This would cause the mechanism unit to be jammed.

14.10. Displaying Self-Diagnostic Results

<Cassette Deck Section> (H01, H02, H03, F01, F02)

1. Enter the self-diagnostic mode, following the instructions described in [14.1.4. Entering Self-Diagnostic Mode].
2. Insert a normal-positioned music tape with erase prevention niches on both Sides A and B. Press [TAPE ►] button to activate the TPS operation so that the tape automatically stops at an interval between music selections.
3. Press [STOP ■] and [TAPE ►] buttons together on the remote controller. (Recording does not start.)
4. Then, insert a Cr02-positioned blank cassette tape with an erase prevention niche of Side A or B set to the left side.
5. Press[∧ /FF/ ►►I] button on the remote control. The tape will be forwarded and automatically stop after two seconds.
6. Remove the cassette tape, and set the other side.
7. Press [∨ / REW/ I◄◄] button on the remote control. The tape will be rewound and automatically stops after two seconds.
8. Press [STOP ■] button on the unit.

   If an error is found, a self-diagnostic key appears on the display.

   If several errors are found, the display shows these keys when [STOP ■] button is pressed repeatedly. (Ex.:H01 -H02 - F01 - H01)

14.11. Error detection for DVD/CD block

Error Code	Abnormal Items	Possible Cause
F15	CD REST SW abnormal	CD traverse position intial setting operation failsfe counter (1000 ms)waiting for REST SW to turn on. Error No. shall be clear by force or during coldstart.
H15	The CD tray closes	CD disc tray detect switch NG. (Check and replace.)
F26	CD servo LSI command signal abnormal	CD function DTMS command, after system setting, if SENSE = 'L' cannot be detected. Memory shall contain F26 code. After Power on, CD function shall continue, error shall occur "NO DISC" Error No. shall be clear by force or coldstart.
F28	DISC LOAD abnormal	While going to play position, iffailsafe counter is finished and switch to o change or switch target condition was not achieve, this error shall be memorized. Next time mechanism operates, it shall do coldstart. Error No. shall be clear by force or coldstart.
F29	DISC unload abnormal	While going to play position, if failsafe counter is finished and switch no change or switch target condition was not achieve, this error shall be memorized. Next time mechanism operates, it shall do coldstart. Error No. shall be clear by force or coldstart.
F27	Slide operation abnormal	During vertical operation, if faisafe timer is finished and switch no change or switch target condition was not achieve, this error shall be memorized. Next time mechanism operates, it shall do coldstart. ErrorNo. shall be clear by force or coldstart.
F17	Down SW abnormal	During vertical operation going to the bottom position, if failsafe timer is finished and switch no change or switch target condition was not achieve, this error shall be memorized. The Next time mechanism operates, it shall do mechanism initialization. Error No. shall be clear by force or coldstart.
F22	Loading Mode/ Mecha abnormal	During mecha initialization, Loading mode mechanism abnormal, normal operation cannot be achieve. The next time mechanism operates, it shall do mechanism initialization. Error No. shall be clear by force or coldstart.
Abnormal item	Error Display	Method of detection

Error Code	Abnormal Items	Possible Cause
F75	CD power abnormal	under normal operation (self-diagnostic mode inclusive), check if CDRST is H for SELECTOR at CD. If it is not H after 1 sec, it shall be memorised as an error.

14.12. Error detection code for Cassette Mechanism Block

Error Code	Abnormal Items	Possible Cause
H01	MODE SW abnormal	Normal operation during mecha transition, MODE SW abnormal is memorised. The content of abnormality can be confirmed in the abnormal detection mode explained in the later section.
H02	REC INH SW abnormal	The content of abnormality can be confirmed in the abnormal detection mode explained in the later section.
H03	HALF SW abnormal	
F01	Reel pulse abnormal	
F02	TPS abnormal	

14.13. Changer Reliability Test 1

1. Enter into test mode. (Refer to section 14.1.4)
2. Press [1] button on the remote control. it enters into ageing mode.

- During this series of operation, the number of its operation shall be shown in the alphanumeric display repeatedly.
  It shall start from [_ _ 00001]
- It shall move up one counter when step 1~8 of the above operations end.
  It shall display [_ _ 00000] after [_ _ 99999] has been reached.
- Press POWER key, tray return to PLAY position and then POWER is OFF.

During test mode, if mecha operation encounters abnormality or time over , retry operation shall be done but aging test mode shall stop.

Ageing process:

Operation	
Tray 1	CLOSE OPEN CLOSE READ
Tray 1	OPEN CLOSE CHANGE
Tray 4	CLOSE READ CHANGE
Tray 5	CLOSE READ CHANGE
Tray 2	CLOSE READ CHANGE
Tray 3	CLOSE READ CHANGE (Back to tray 1 and repeat)

Note: To exit ageing mode, press [POWER] button. The unit will power down. Do not unplug the power cord until FL display shows “GOOD-BYE”. This is to avoid tray jam problem.

14.14. Changer Reliability Test 2

1. Enter into test mode. (Refer to section 14.1.4)
2. Press [2] button on the remote control. it enters into ageing mode.

- During this series of operation, the number of its operation shall be shown in the alphanumeric display repeatedly.
  It shall start from [_ _ 00001]
- It shall move up one counter when step 1~8 of the above operations end.
  It shall display [_ _ 00000] after [_ _ 99999] has been reached.
- Press POWER key, tray return to PLAY position and then POWER is OFF.

During test mode, if mecha operation encounters abnormality or time over , retry operation shall be done but aging test mode shall stop.

Ageing process:

	Operation
Tray 1	CLOSE READ OPEN CLOSE CHANGE
Tray 2	CLOSE READ OPEN CLOSE CHANGE
Tray 3	CLOSE READ OPEN CLOSE CHANGE
Tray 4	CLOSE READ OPEN CLOSE CHANGE
Tray 5	CLOSE READ OPEN CLOSE CHANGE (Back to tray 1 and repeat)

Note: To exit ageing mode, press [POWER] button. The unit will power down. Do not unplug the power cord until FL display shows "GOOD-BYE". This is to avoid tray jam problem.

14.15. Changer Reliability Test 3

1. Enter into test mode. (Refer to section 14.1.4)
2. Press [3] button on the remote control. it enters into ageing mode.

- During this series of operation, the number of its operation shall be shown in the alphanumeric display repeatedly.

  It shall start from [_ _ 00001]
- It shall move up one counter when step 1~8 of the above operations end.

  It shall display [_ _ 00000] after [_ _ 99999] has been reached.
- Press POWER key, tray return to PLAY position and then POWER is OFF.

During test mode, if mecha operation encounters abnormality or time over , retry operation shall be done but aging test mode shall stop.

Ageing process:

	Operation
Tray 1	OPEN CLOSE READ CHANGE
Tray 2	OPEN CLOSE READ CHANGE
Tray 3	OPEN CLOSE READ CHANGE
Tray 4	OPEN CLOSE READ CHANGE
Tray 5	OPEN CLOSE READ CHANGE DISC CHECK (Back to tray 1 and repeat)

Note: To exit ageing mode, press [POWER] button. The unit will power down. Do not unplug the power cord until FL display shows "GOOD-BYE". This is to avoid tray jam problem.

Display Example:	[1OP000000]	...TRAY OPEN
	[1CL000000]	...TRAY CLOSE
	[1CH000000]	...TRAY CHANGING

15 Cautions To Be Taken During Servicing

15.1. Recovery after the dvd player is repaired

- When Flash ROM or module(2) P.C.B. is replaced, carry out the recovery processing to optimize the drive. Playback the recovery disc to process the recovery automatically.
- Recovery disc (Product number=RFKZD03R005)
- Performing recovery
  1. Load the recovery disc (Product number: RFKZD03R005) to the player and run it.
  2. Recovery is performed automatically. When it is finished, a message appears on the screen.
  3. Remove the recovery disc.
  4. Turn off the power.

Note:

This unit requires no initialization process carried out after the traditional DVD players were repaired. When the recovery measures are taken, the customer setting will return to the factory setting as same as the procedure described in item “Initialization” in 9.6 is carried out. Write down the contents of the setting before recovery processing, and reset the player.

15.2. DVD Player Firmware Version Upgrade Process

Firmware of DVD player may upgrade to conform to improvement of its performance and quality including operational range, playability of non-standardized discs, etc. The version upgrade disc contains the recovery function, and the recovery disc is not necessary.

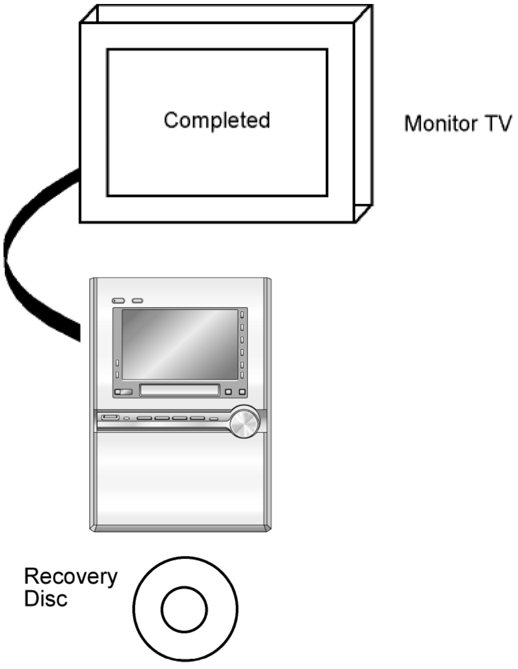
Note:

Version upgrade process cannot be complete if the AC power is cut off due to power failure and other occasions during the process. If this occurs, replace FLASH ROM and restart version upgrade. Version upgrade disc number is informed when ordered.

15.3. Firmware Version Upgrade Process by Using Disc and Recovery Process

- Recovery process
- Firmware version upgrade process

Both of the above procedures automatically start when the recovery disc is replayed.General CD-R disc allows version upgrade process and recovery process, making version upgrade through disc simple.
Recovery process: Optimization process of player after replacement of FLASH ROM, EEPROM, or module circuit board
Version upgrade process: Renewal of firmware for improvement of operational range and performance



Recovery

15.4. Using Recovery Disc

15.4.1. Recovery Process

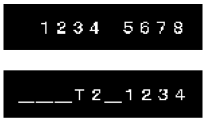
1. Insert the recovery disc (RFKZD03R005) to the player to replay.
2. The recovery process automatically starts, and a message of completion prompts on the screen.
3. Remove the disc.
4. Turn off the power.

15.4.2. Version Upgrade Process

1. Insert the recovery disc to the player to replay.
2. The version of player is automatically checked and prompts if necessary.
3. Select version upgrade process using the cursor keys on the remote controller unit. (Select YES or NO)
4. a. If YES is selected, the process starts.
   b. If NO is selected, only the recovery process is applied.
5. a. When the version upgrade process is complete, a message of completion appears on the screen. Remove the disc.
   b. Follow the instruction appearing on the screen, and remove the disc.
6. Turn off the power.

15.5. Total Usage Time Display

1. Details of Operation/Display



Total usage time of DVD/CD lasers
Time is shown by the ten hours in the decimal digit.

Total usage time of spindle motor
Time is shown by the ten hours in the decimal digit.

Keys for Operation:
Laser usage time: While the player is stopped and no disc is inserted, press both the ■ button on the player and the ▲ button on the remote controller unit.
Spindle motor usage time: While the player is stopped and no disc is inserted, press both the ■ button on the player and the ► button on the remote controller unit.

To reset the usage time, **while the usage time is displayed:**
Laser usage time: press both the ■ button on the player and the ▼ button on the remote controller unit.
Spindle motor usage time: press both the ■ button on the player and the ◄ button on the remote controller unit.

2. Purpose of Use

To obtain reference data of laser and spindle motor systems during failure diagnosis.
To check faulty parts during re-repair.

16 Procedure for Checking Operation of Individual Parts of Deck Mechanism Unit

16.1. Operation Check with Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.) (Fig. 5)
3. Insert a cassette tape to the unit.
4. Supply DC9V to the plunger, and turn the power ON and OFF. (→ Power +PL, -PL) (Fig. 5)
    a. FWD PLAY: Supply the plunger power in a flash. (ON: approx. 5msec)
    b. FWD FF: Supply the plunger power in a flash at PLAY mode. (ON: approx. 5msec)
    c. STOP: Supply the plunger power in a flash at FWD FF mode. (ON: approx. 5msec)
    d. REV PLAY: Supply the plunger power in a normal timing at STOP mode. (ON: approx. 200msec)
    e. REV REW: Supply the plunger power in a flash at REV PLAY mode. (ON: approx. 50msec)
    f. STOP: Supply the plunger power in a flash at FF mode. (ON: approx. 50msec)
    Repeat the operation (→ FWD PLAY)
    (Note) Other operation may start if a timing of supplying the plunger power is missed.

16.1.1. Connection Status between Mechanism and Power Supply (Motor, Plunger)

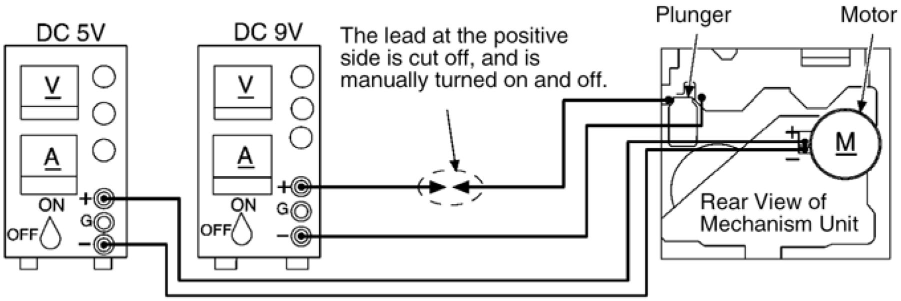

DC 5V
DC 9V
V
A
ON
OFF
+
G
–
The lead at the positive side is cut off, and is manually turned on and off.
Plunger
Motor
M
Rear View of Mechanism Unit

Fig. 5

16.1.2. Operative Parts of Deck Mechanism Unit (EJECT lever fitted with rubber band, Plunger/Rib operation)

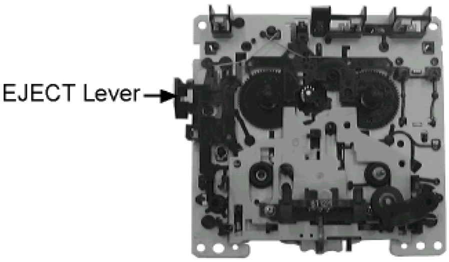


Fig. 6

16.2. Operation Check without Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.)
3. Lift up the mechanism unit's plunger/rib with the tip of a negative screwdriver, and operate the unit in the same timing as supplying the power. (Fig. 7)

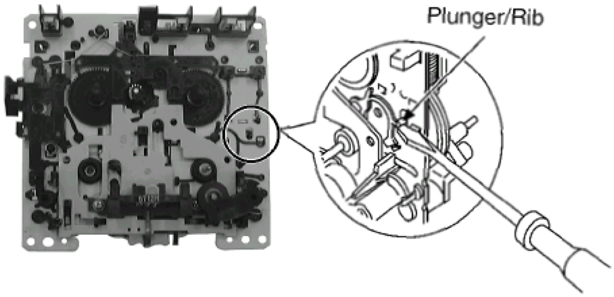

Plunger/Rib

Fig. 7

17 Measurement And Adjustments

17.1. Cassette Deck Section

17.1.1. Requirements

- Test tape (QZZCFM) (QZZCWAT)
- Normal blank cassette tape (QZZCRA)
- Digital frequency counter
- Oscilloscope
- Electrical voltmeter
- Headphone jack output jig (Fig. 8)

17.1.2. Setting of Unit

- VOLUME: MAX

17.1.3. Preparations

1. Apply under [12. Assembling and Disassembling].
2. Remove 4 screws from the mechanism unit to disassemble. under [12. Assembling and Disassembling].
3. Connect the headphone jack output jig (Fig. 8) to headphone jack.

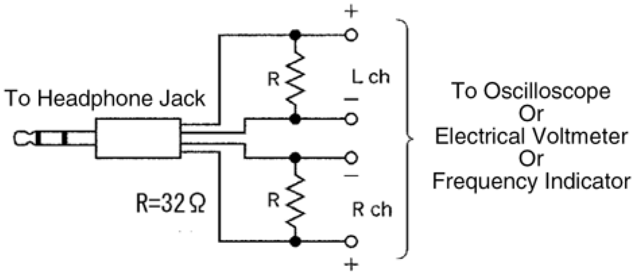

To Headphone Jack
R=32Ω
R
R
+
L ch
−
−
R ch
+
To Oscilloscope
Or
Electrical Voltmeter
Or
Frequency Indicator

Fig. 8

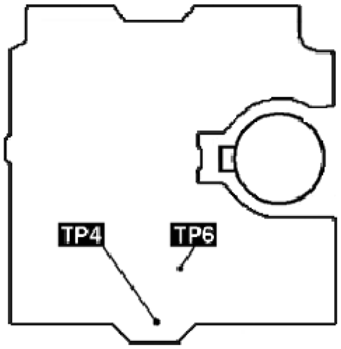


Fig. 9

17.1.4. Tape Speed Adjustment

- Normal speed adjustment (only during forward playback)
  (Product reference value: 3,000±90Hz)

1. Connect a frequency indicator. (Fig. 12)
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust the motor screw so that the following output level is produced. (Fig. 10)
   Adjustment Range: 3,000 ± 90Hz (a constant speed)

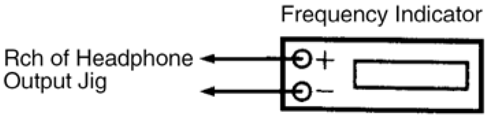

Frequency Indicator
Rch of Headphone Output Jig
+
−

Fig. 10

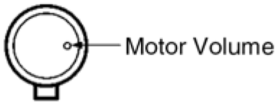

Motor Volume

Fig. 11

17.1.5. Bias Voltage Check

1. Connect an electrical voltmeter. (Fig. 12)
2. Set the function to “TAPE” position.
3. Insert a normal blank cassette tape (QZZCRA).
4. While pressing and holding down [● REC] button, press [TAPE ▶] button to pause the recording mode. (Repeat pressing the buttons till the recording pause mode is activated.)
5. Check that the output level is within the standard range.
   Standard Range: 14 ± 4mV

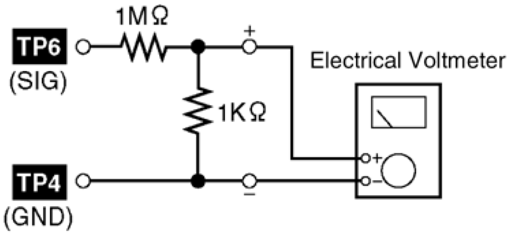

1MΩ
TP6
(SIG)
1KΩ
TP4
(GND)
+
−
Electrical Voltmeter

Fig. 12

17.1.6. Bias Frequency Check

1. Connect a digital frequency counter (Fig. 13).
2. Set the function to “TAPE” position.
3. Insert a normal blank cassette tape (QZZCRA) and press “REC” mode on main unit.
4. Check that the output frequency is within the standard range.

Standard Value: 98 ±8 kHz

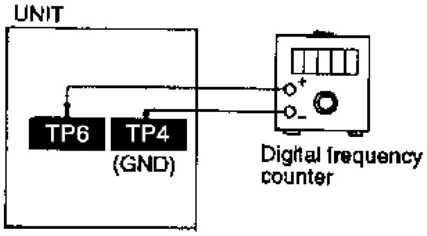

UNIT
TP6
TP4
(GND)
+
−
Digital frequency counter

Fig. 13

18 Voltage Measurement and Waveform Chart

Note:

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.

  Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point because it may differ from actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.
- Measurement with shield ON.

18.1. Voltage Measurement

DVD MODULE P.C.B.																				
Ref No.	IC8001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	3.1	3.0	0	3.0	3.2	3.3	2.9	3.0	0	3.0	3.0	3.3	2.8	3.1	2.8	0	2.8	2.9	3.3	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	3.3	0	2.3	0	1.3	0	3.3	0	0.5	0	0	0	3.3	0	1.2	0.5	0.3	3.3	3.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	2.5	2.9	2.0	1.3	1.8	0.8	0.8	3.3	0	2.5	2.7	2.5	3.3	0	0	2.9	3.3	1.4	0	3.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	3.3	0	0	0	1.4	0	3.0	2.8	3.2	0	0	1.9	0	1.7	1.9	1.7	0	3.3	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	3.3	3.3	3.3	3.3	0	0	0	0	1.3	0	0	0	0	0	0	0	0	0	0.8	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CD PLAY	2.4	2.1	1.8	0.4	0	1.8	0	2.1	2.1	1.8	1.8	1.4	1.4	1.7	1.7	1.7	1.7	3.3	1.9	1.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
CD PLAY	1.4	0	0.5	0.1	0.2	1.1	2.2	1.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.7	1.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
CD PLAY	3.3	1.2	1.9	2.2	0	1.7	1.7	1.7	0.4	3.3	0.5	0.4	1.0	1.0	2.2	0.4	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
CD PLAY	0	0	1.6	0	1.5	0	3.3	0.1	1.7	1.7	0.9	1.3	0	0	0	0.9	0	3.3	0	3.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
CD PLAY	0	0	0	0	0	0	0	0	0	3.3	0	0.8	1.6	0.7	1.6	3.3	0.9	1.6	1.4	1.4
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
CD PLAY	0	3.3	1.0	1.6	0	1.6	1.7	1.9	3.3	0.9	2.2	0.8	0	2.6	2.6	3.3	2.0	0	1.3	1.6
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
CD PLAY	0.2	0	1.6	0.2	3.3	1.6	0	0	0	0	0.2	0	1.6	0.2	3.3	1.7	0	1.6	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
CD PLAY	3.3	1.6	0	0	2.1	0	1.3	0	0	3.4	3.1	1.6	0	3.2	3.2	3.3	0	3.3	2.6	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	261	262	263	264	265	266														
CD PLAY	2.6	2.8	0	2.8	3.3	2.9														
STANDBY	0	0	0	0	0	0														
Ref No.	IC8051																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	2.8	3.3	3.1	3.0	0	3.0	3.2	3.4	3.0	3.0	0	2.8	3.3	2.6	3.3	3.2	3.2	3.1	2.1
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8051																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.6	0.1	0.1	0.2	0.2	2.0	3.3	0	1.6	1.6	1.7	1.6	0	0	0	0	0	0	2.6	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8051																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
CD PLAY	0	2.8	0	3.1	3.1	0	0	3.0	3.3	2.8	2.8	0	0	0						
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Ref No.	IC8111																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.3	0	0	2.0	4.6	0	0	4.9												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.	IC8251																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.7	1.7	1.7	1.8	1.8	1.7	0	4.9	3.3	0	2.4	2.5	2.5	4.4	4.4	4.4	4.9	3.8	0	3.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8251																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	9.2	9.1	1.7	1.7	1.7	1.7	3.3	3.1												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.	IC8420																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0	3.3	2.9	3.3	1.7	0.8	1.7	1.7	0	0	5.50	0	2.5	2.4	2.4	4.9				
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Ref No.	IC8601																			
MODE	1	2	3																	
CD PLAY	0	3.1	3.3																	
STANDBY	0	0	0																	
Ref No.	IC8606																			
MODE	1	2	3	4	5															
CD PLAY	0.6	1.3	0	0	1.2															
STANDBY	0	0	0	0	0															
Ref No.	IC8611																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0	3.3	0	0	3.3												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.	IC8651																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0.9	0.8	2.9	0.8	0.8	0.8	2.6	0.8	3.4	0	3.3	3.1	3.3	3.3	0.7	2.1	2.4	1.2	2.4	2.4
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0
Ref No.	IC8651																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	2.1	0	2.6	2.6	2.7	2.4	0	2.3	0.7	0.8	0.8	0.7	1.5	0	1.6	1.5	0	1.4	0.9	1.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8651																			
MODE	41	42	43	44	45	46	47	48												
CD PLAY	1.7	1.6	2.0	1.8	2.2	0	3.3	0.5												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.	IC8691																			
MODE	1	2	3	4	5															
CD PLAY	3.0	3.0	0	0	4.9															
STANDBY	0	0	0	0	0															
Ref No.	IC8695																			
MODE	1	2	3	4	5															
CD PLAY	2.8	2.8	0	0	4.9															
STANDBY	0	0	0	0	0															
CD LOADING P.C.B																				
Ref No.	IC 11																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	7.5	0	0	0	7.5	7.5	4.8	0	4.8											
STANDBY	1.7	0	0	0	1.7	1.7	2.7	0	2.8											
Ref No.	IC 21																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	7.5	0	0	0	7.5	7.5	4.8	0	4.8											
STANDBY	1.7	0	0	0	1.7	1.7	2.7	0	2.7											

MAIN P.C.B.

Ref No.	IC2801																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	5.1	5.1	5.1	0.3	0	0	0	0	0.6	0.7	5.0	2.5	0	-	5.1	5.1	4.9	3.6	5.1
STANDBY	0	5.0	5.0	0	0	0	0	0	0	0.7	0.7	5.1	2.5	0	2.4	5.2	5.1	5.1	3.5	5.0
Ref No.	IC2801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	5.0	5.0	0	0	0	5.1	5.0	5.0	5.0	5.0	1.6	0	0	0	3.9	4.0	4.4	0	0	5.0
STANDBY	0	0	0	0	0	5.0	3.4	3.6	5.1	5.1	0.9	0	0	0	0	0.1	0.1	0	0	0
Ref No.	IC2801																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	5.0	0	0	5.1	0	0	0	0	0	0	0	0	0	2.5	0	0	0	0	0
STANDBY	0	0	0	0	5.1	0	0	0	0	0	0	0	0	0	2.6	0	0	0	0	0
Ref No.	IC2801																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	5.1	0	0	0	0	0	5.1	0	5.0	0	3.2	0	0	0	0	1.5	0	4.3	4.9
STANDBY	0	5.1	0	0	0	0	0	0	0	5.1	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2801																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	4.1	2.1	4.8	5.1	3.1	5.0	5.0	2.2	5.0	0.4	2.5	3.8	0	5.0	5.0	5.0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	2.3	5.1	0.4	2.5	3.8	0	5.0	5.0	5.0	0
Ref No.	IC2802																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	5.0	0	0	0	0	0	0												
STANDBY	0	5.2	0	0	0	0	0	0												
Ref No.	IC2803																			
MODE	1	2	3	4	5															
CD PLAY	14.1	2.5	0	1.2	3.0															
STANDBY	0.5	0	0	0	0															
Ref No.	IC2804																			
MODE	1	2	3	4	5															
CD PLAY	14.1	6.0	0	1.2	4.9															
STANDBY	0.5	0	0	0	0															
Ref No.	IC2805																			
MODE	1	2	3	4	5															
CD PLAY	2.5	5.0	1.4	1.0	0															
STANDBY	0	0	0	0	0															
Ref No.	IC2806																			
MODE	1	2	3	4	5															
CD PLAY	5.9	5.9	5.0	0	0															
STANDBY	0	0	0	0	0															
Ref No.	IC2807																			
MODE	1	2	3	4	5															
CD PLAY	5.9	5.9	5.0	0	0															
STANDBY	0	0	0	0	0															
Ref No.	IC2808																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.9	2.3	4.9	0	0	1.7	2.4	0	0	0	0	0	4.9	2.3	4.9	2.3	0	2.2	2.2	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	4.9	0.2	0	0	0	0
Ref No.	IC2808																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34						
CD PLAY	2.2	2.3	0	2.2	2.2	0	1.8	1.8	0	1.7	1.7	0	2.2	4.9						
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Ref No.	IC2812																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.3	4.3	4.3	4.3	0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	0	0	0
STANDBY	0.3	0.3	0.3	0.3	0	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0	0	0	0
Ref No.	IC2812																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	8.6	0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
STANDBY	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0	0	0	0	0	0	0
Ref No.	IC2813																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-9.1	0	0	0	9.0												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.		Q2101				Q2102				Q2103				Q2201				Q2202		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0		0	0	-6.2		0	0	-6.2		0	0	0		0	0	-6.2	
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Ref No.		Q2203				Q2204				Q2205				Q2803				Q2805		
MODE	E	C	B		E	C	B		1	2	3		E	C	B		E	C	B	
CD PLAY	0	0	-6.2		0	0	-6.2		0	0	-6.2		0	5.1	0		0	5.0	0	
STANDBY	0	0	0		0	0	0		0	0	0		0	5.1	0		0	0	0	
Ref No.		Q2807				Q2808				Q2809				Q2813				Q2814		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0.2		0	3.2	0		0	10.0	0		0	0	3.7		5.1	5.0	4.3	
STANDBY	0	0	0		0	0	0		0	0.2	0		0	5.2	0		5.2	5.2	4.5	
Ref No.		Q2815				Q2816				Q2817				Q2818				Q2826		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	5.1	5.0	4.3		0	0	0.7		0	10.0	0		0	9.9	0		0	0	4.2	
STANDBY	5.2	0	5.2		0	0	0		0	0.2	0		0	0.2	0		0	0	0	

PANEL P.C.B.

Ref No.	IC601																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-29.5	-29.4	-29.4	-29.5	5.0	3.0	4.1	2.1	0	0	5.1	2.2	2.2	0	-27.5	-31.4	-23.4	-25.4	-23.4	-31.6
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC601																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-25.4	-29.5	-27.5	-31.7	-25.5	-23.3	-23.4	-29.6	-25.4	-29.5	-21.3	-25.4	-25.4	-27.5	-23.4	-23.4	-25.3	-25.4	-29.5	-27.5
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC601																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	-25.4	-31.6	-21.3	-25.4	-25.4	-25.4	-31.7	-29.6	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC601																			
MODE	61	62	63	64																
CD PLAY	-29.5	-29.5	-29.5	-29.5																
STANDBY	0	0	0	0																
Ref No.	Q601				Q602				Q603				Q611				Q680			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-29.2	5.0	-29.3		-29.2	5.0	-29.3		0	0	0.8		0	3.1	-0.3		0	3.6	0	
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0		0	3.8	0	

DECK P.C.B.

Ref No.	IC 1000																			
MODE	1	2	3	4	5															
CD PLAY	5.8	0	0	0	0															
STANDBY	0	0	0	0	0															
Ref No.	IC 1001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0.7	5.0	4.3	0	4.9	0	0	0.1	5.9	0	8.2	0	0	0	0	3.6	0.2	4.2	5.0
STANDBY	0	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.3
Ref No.	IC 1001																			
MODE	21	22																		
CD PLAY	0.7	0																		
STANDBY	0.3	0																		
Ref No.	Q1101				Q1201				Q1302				Q1303				Q1304			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0.7		0	0	0.7		2.0	1.9	0		0	5.8	0		5.8	0	5.8	
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Ref No.	Q1309				Q1310				Q1312				Q1314				Q1315			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	8.8	0		0	8.8	0		0	0	0		10.0	-0.1	10.0		10.0	0	10.0	
STANDBY	0	0	0		0	0	0		0	0	0		0.2	-0.2	0.2		0.2	0	0.2	
Ref No.	Q1316				Q1317															
MODE	E	C	B		E	C	B													
CD PLAY	0	9.4	-0.2		0	0	0													
STANDBY	0	0	-0.2		0	0	0													

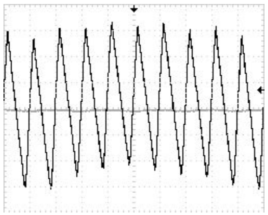
POWER P.C.B.

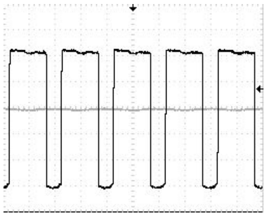
Ref No.	IC500																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
CD PLAY	-30.8	30.4	0	30.4	-30.8	0	0	0.7	0	-14.9	0	0	0	0	0	0	30.4	-30.8		
STANDBY	-0.4	0.4	0	0.4	-0.4	0	0	0	0	-0.4	0	0	0	0	0	0	0.4	-0.4		
Ref No.	Q5101				Q5102				Q5201				Q5202				Q5801			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-0.8	9.0	-0.1		-0.9	9.0	-0.2		-0.8	9.0	-0.1		-0.9	8.9	-0.2		9.0	29.1	9.6	
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0		0	0.3	0.3	
Ref No.	Q5802				Q5803				Q5804				Q5805				Q5807			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-9.1	-29.3	-9.7		9.2	13.4	9.8		14.0	10.0	13.3		14.1	13.3	14.0		0	-9.7	-0.6	
STANDBY	-0.1	-0.5	-0.5		0	0.1	0.5		0.5	0.2	0.4		0.5	0.4	0.5		0	-0.4	0	
Ref No.	Q5808				Q5809				Q5810											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	0	3.1	0		0	3.1	0		0	3.7	-0.2									
STANDBY	0	0	0		0	0	0		0	0	0.1									

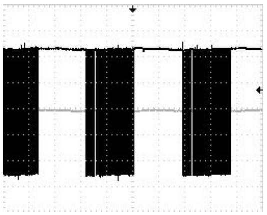
TRANSFORMER P.C.B.

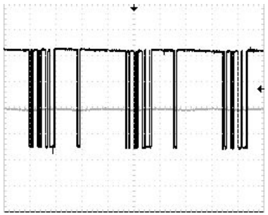
Ref No.	Q5901				Q5902				Q5903				Q5904							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	-31.6	-52.0	-32.2		0	0	0.6		0	3.6	-0.2		5.9	9.8	6.6					
STANDBY	0.2	-0.1	0		0	6.1	0		0	3.5	-0.2		6.1	7.0	6.6					

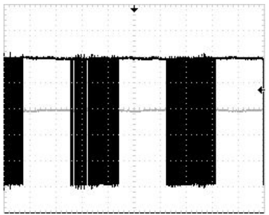
18.2. Waveform

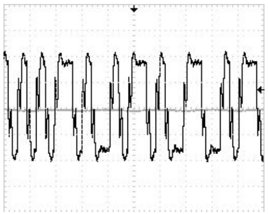

CN2801 PIN 1
CD PLAY
1.28Vp-p (10msec.div)

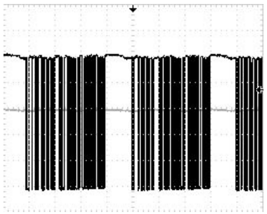

CN2801 PIN 8
CD PLAY
5.36Vp-p (10msec.div)

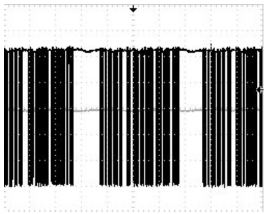

CN2803 PIN 1
CD PLAY
5.32Vp-p (10msec.div)

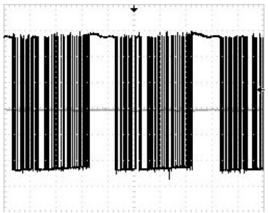

CN2803 PIN 2
CD PLAY
4.08Vp-p (10msec.div)

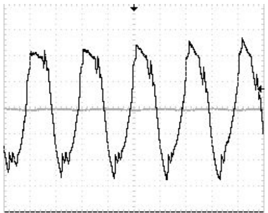

CN2803 PIN 3
CD PLAY
5.28Vp-p (10msec.div)

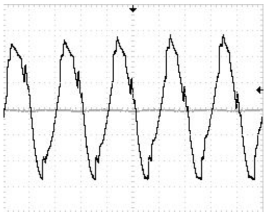

CN2803 PIN 21
CD PLAY
4.24Vp-p (500nsec.div)

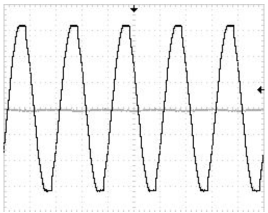

CN2805 PIN 10
CD PLAY
5.28Vp-p (10msec.div)

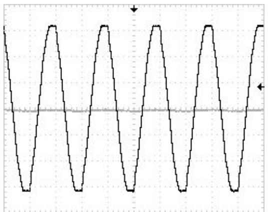

CN2805 PIN 11
CD PLAY
5.52Vp-p (10msec.div)

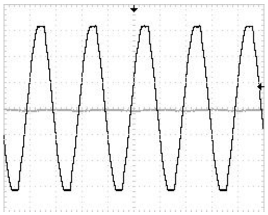

CN2805 PIN 12
CD PLAY
5.72Vp-p (10msec.div)

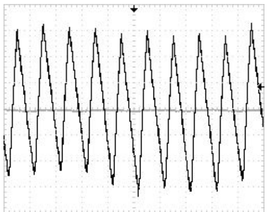

CN5901 PIN 2
CD PLAY
5.44Vp-p (10msec.div)


CN5901 PIN 3
CD PLAY
5.56Vp-p (10msec.div)


H5902 PIN 1
CD PLAY
64.0Vp-p (10msec.div)

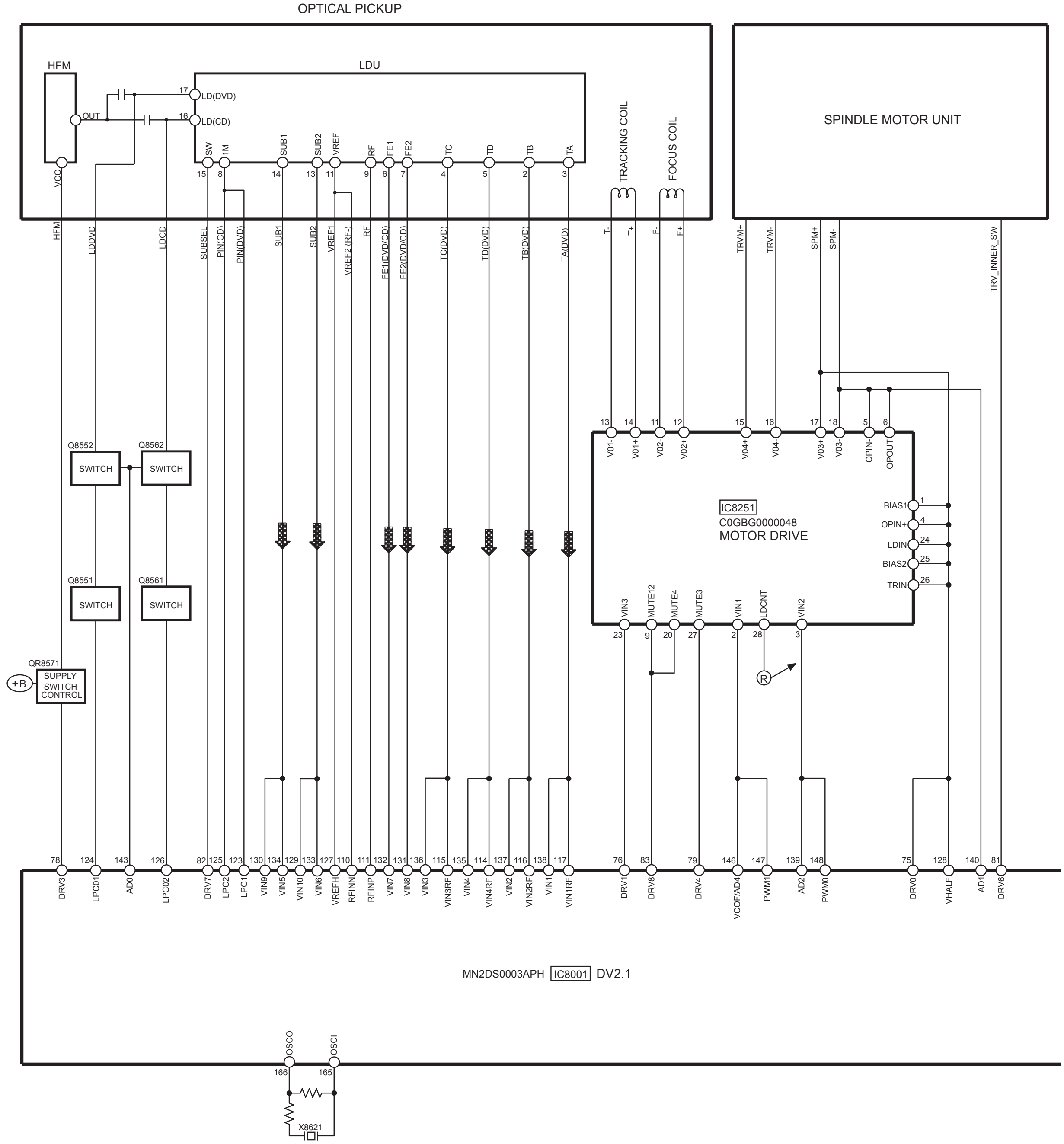

H5902 PIN 2
CD PLAY
64.0Vp-p (10msec.div)

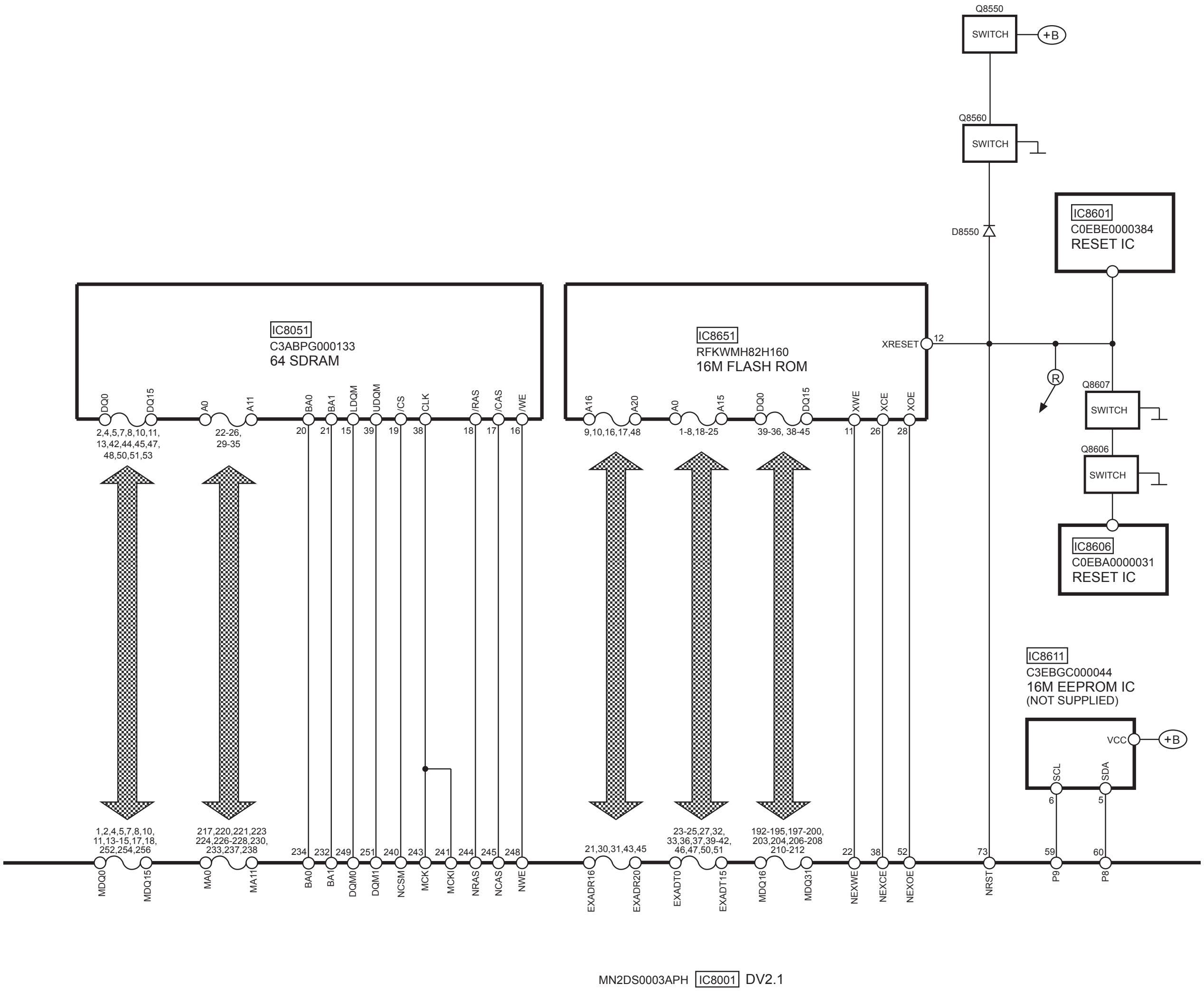

H5902 PIN 5
CD PLAY
63.6Vp-p (10msec.div)

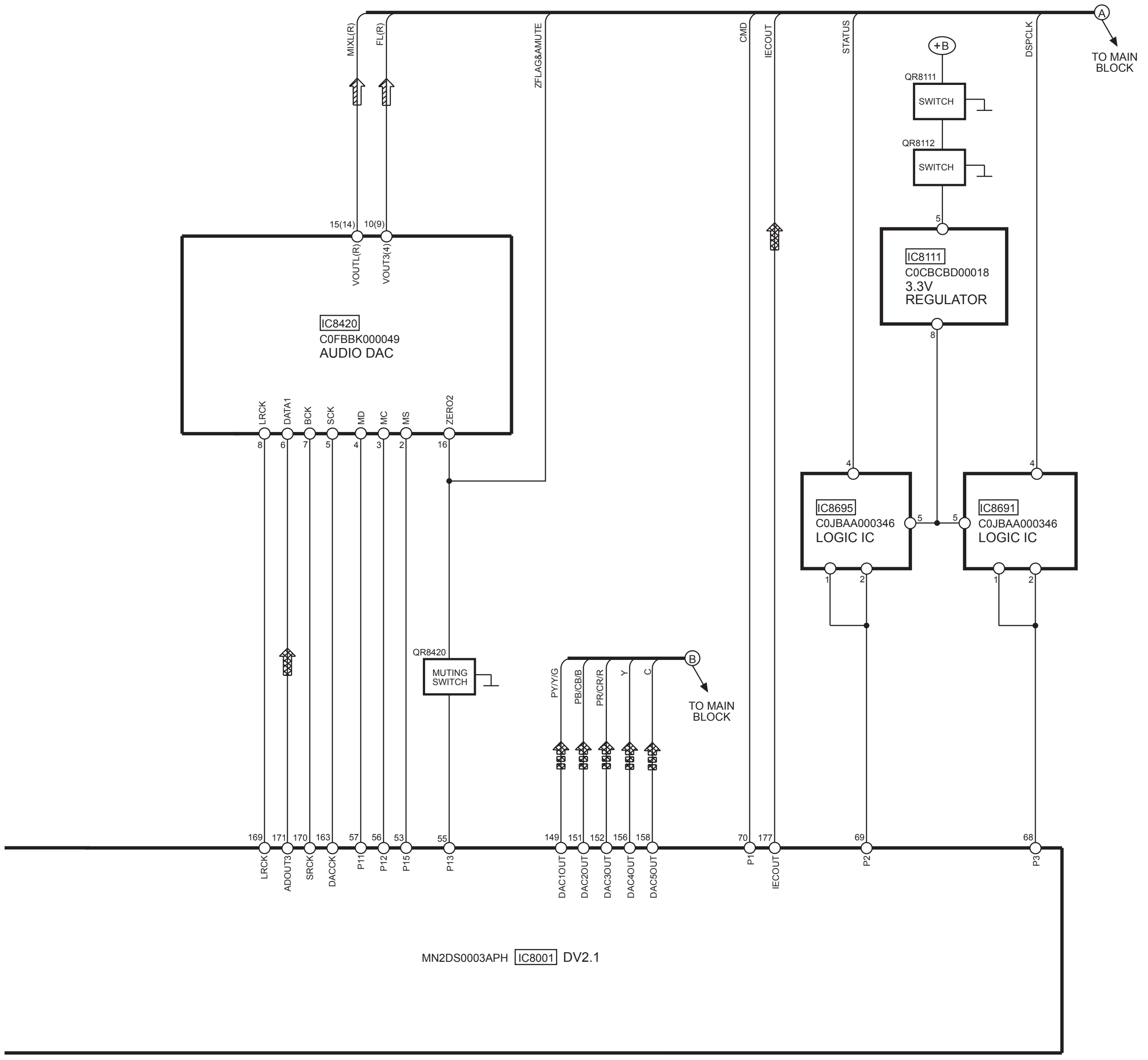

H5902 PIN 8
CD PLAY
1.33Vp-p (10msec.div)

19 Block Diagram

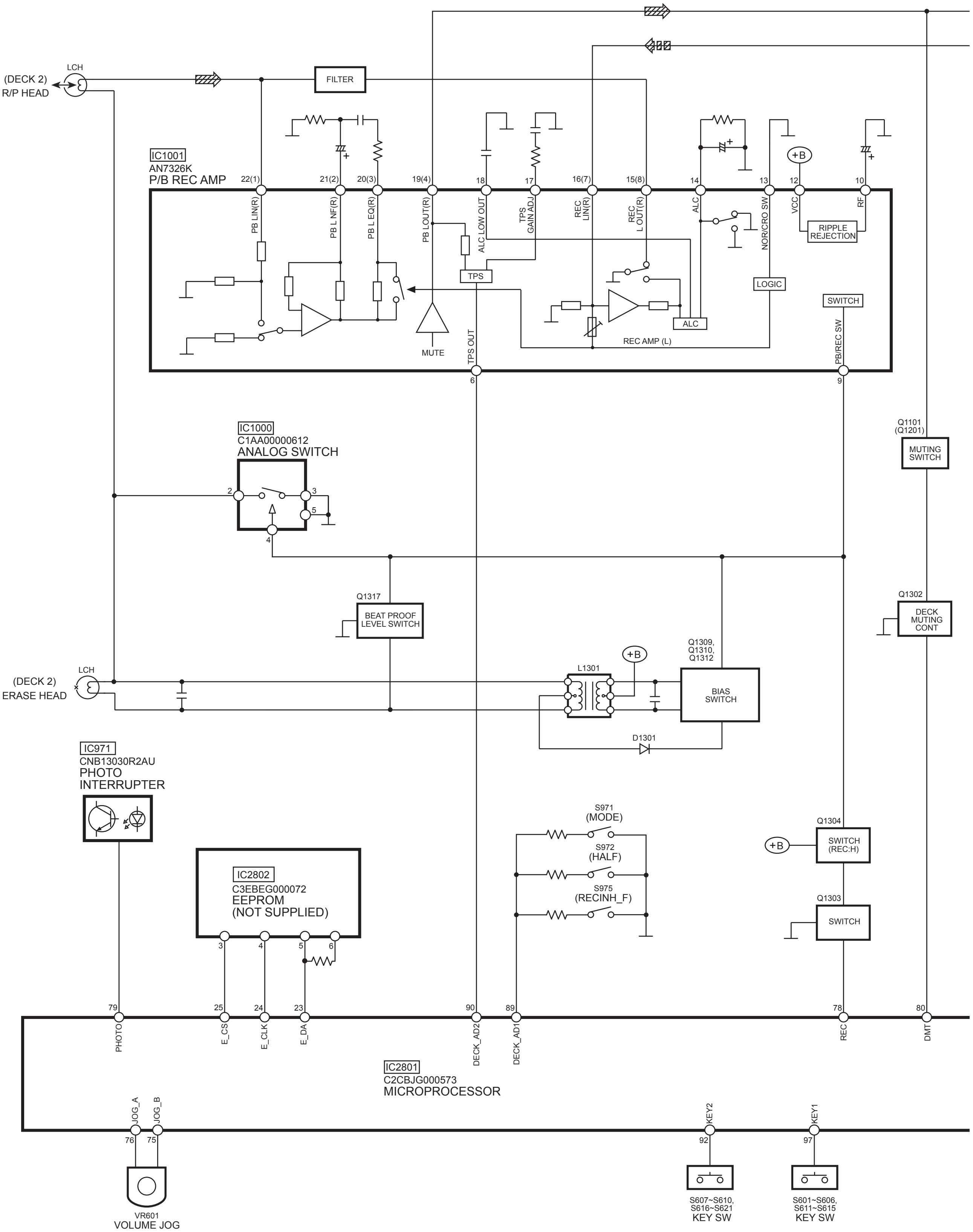
19.1. DVD Module Block

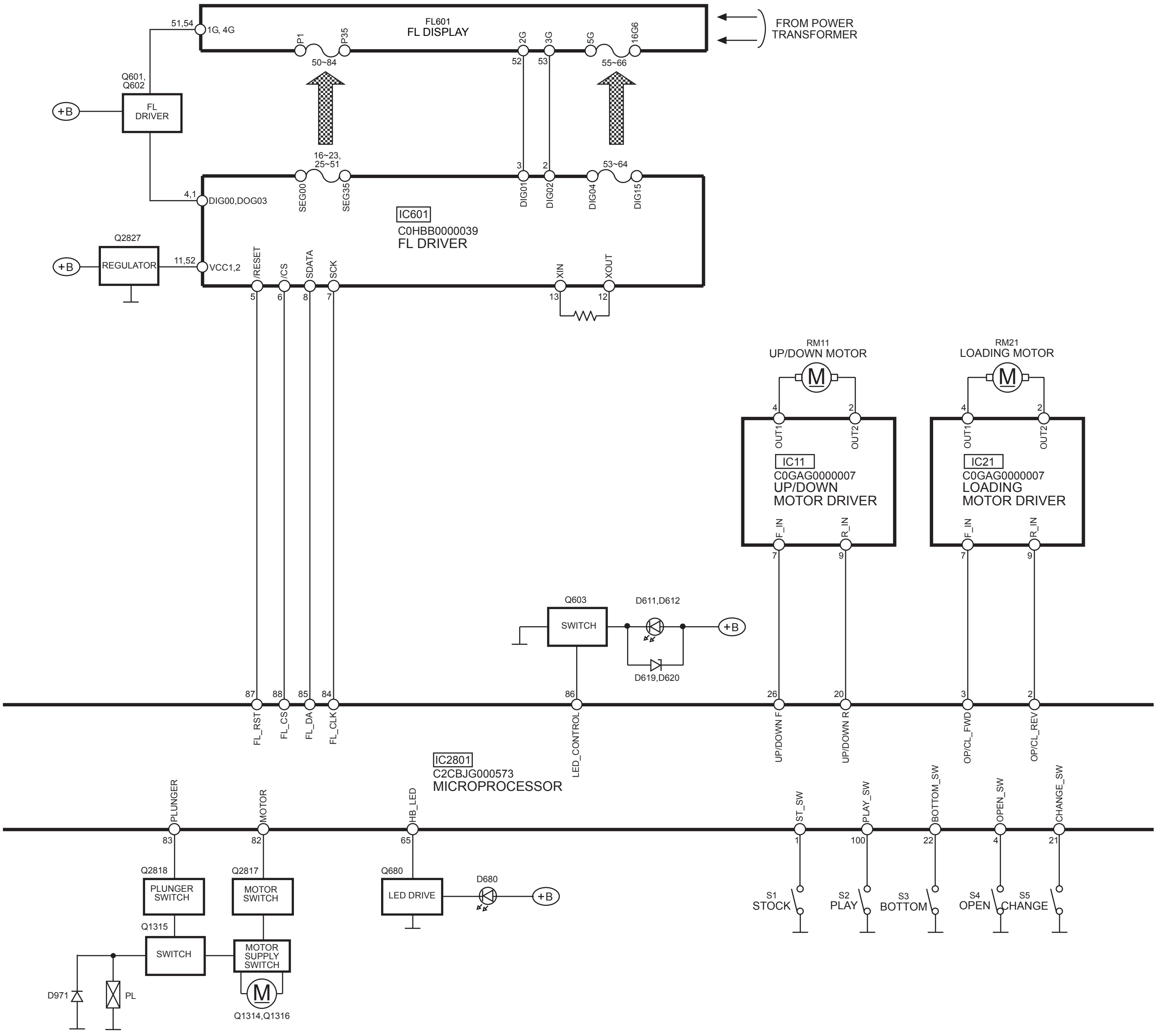

OPTICAL PICKUP
HFM
OUT
VCC
LDU
17
LD(DVD)
16
LD(CD)
SW
1M
SUB1
SUB2
VREF
RF
FE1
FE2
TC
TD
TB
TA
15
8
14
13
11
9
6
7
4
5
2
3
TRACKING COIL
FOCUS COIL
SPINDLE MOTOR UNIT
HFM
LDDVD
LDCD
SUBSEL
PIN(CD)
PIN(DVD)
SUB1
SUB2
VREF1
VREF2 (RF-)
RF
FE1(DVD/CD)
FE2(DVD/CD)
TC(DVD)
TD(DVD)
TB(DVD)
TA(DVD)
T-
T+
F-
F+
TRVM+
TRVM-
SPM+
SPM-
TRV_INNER_SW
Q8552
SWITCH
Q8562
SWITCH
Q8551
SWITCH
Q8561
SWITCH
QR8571
+B
SUPPLY SWITCH CONTROL
13
14
11
12
15
16
17
18
5
6
V01-
V01+
V02-
V02+
V04+
V04-
V03+
V03-
OPIN-
OPOUT
IC8251
C0GBG0000048
MOTOR DRIVE
BIAS1
1
OPIN+
4
LDIN
24
BIAS2
25
TRIN
26
VIN3
MUTE12
MUTE4
MUTE3
VIN1
LDCNT
VIN2
23
9
20
27
2
28
3
R
78
124
143
126
82
125
123
130
134
129
133
127
110
111
132
131
136
115
135
114
137
116
138
117
76
83
79
146
147
139
148
75
128
140
81
DRV3
LPC01
AD0
LPC02
DRV7
LPC2
LPC1
VIN9
VIN5
VIN10
VIN6
VREFH
RFINN
RFINP
VIN7
VIN8
VIN3
VIN3RF
VIN4
VIN4RF
VIN2
VIN2RF
VIN1
VIN1RF
DRV1
DRV8
DRV4
VCOF/AD4
PWM1
AD2
PWM0
DRV0
VHALF
AD1
DRV6
MN2DS0003APH
IC8001
DV2.1
OSCO
OSCI
166
165
X8621

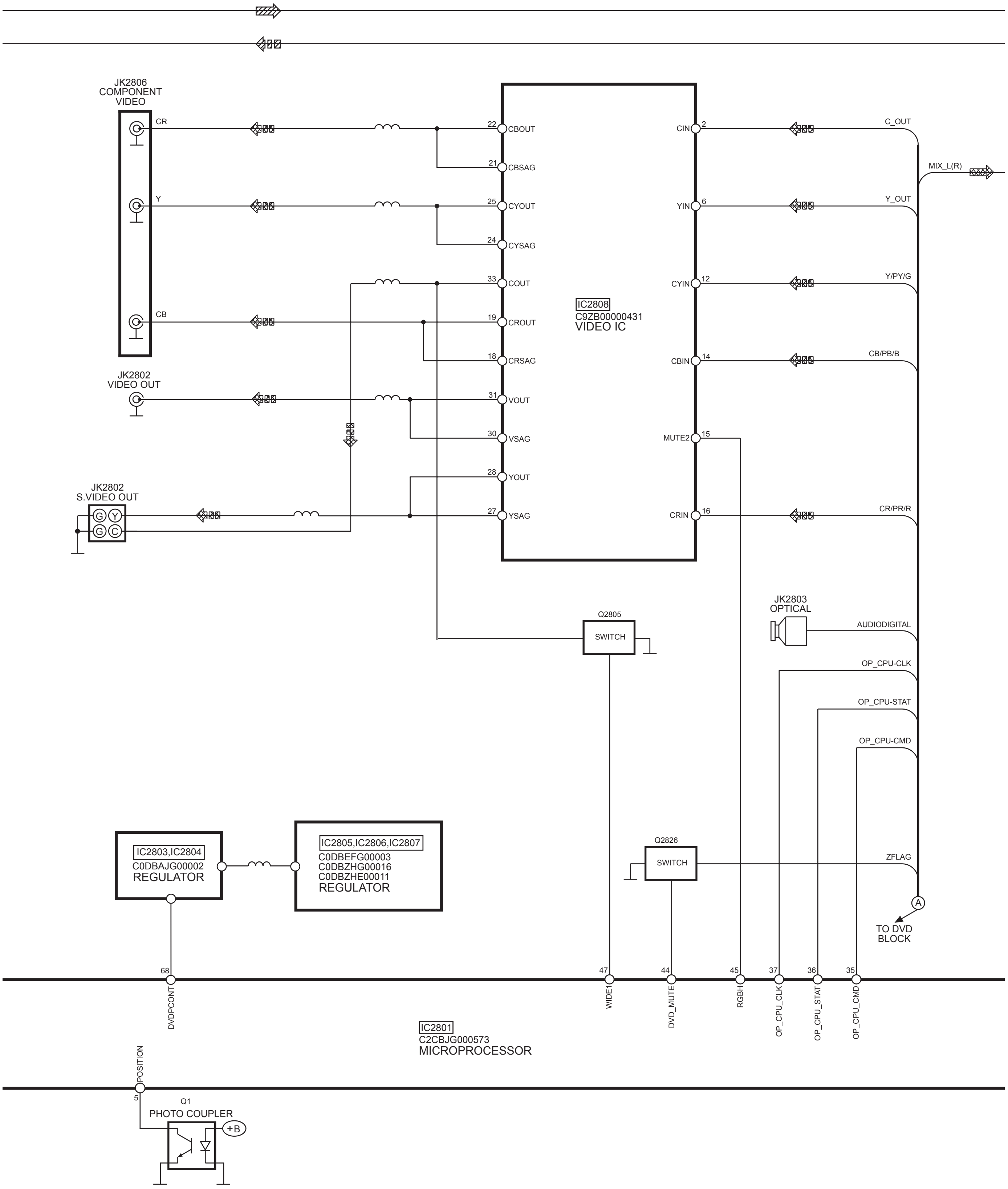

Q8550
SWITCH
+B
Q8560
SWITCH
D8550
IC8601
C0EBE0000384
RESET IC
IC8051
C3ABPG000133
64 SDRAM
DQ0
DQ15
A0
A11
BA0
BA1
LDQM
UDQM
/CS
CLK
/RAS
/CAS
/WE
2,4,5,7,8,10,11,
13,42,44,45,47,
48,50,51,53
22-26,
29-35
20
21
15
39
19
38
18
17
16
IC8651
RFKWMH82H160
16M FLASH ROM
XRESET
12
A16
A20
A0
A15
DQ0
DQ15
XWE
XCE
XOE
9,10,16,17,48
1-8,18-25
39-36, 38-45
11
26
28
R
Q8607
SWITCH
Q8606
SWITCH
IC8606
C0EBA0000031
RESET IC
IC8611
C3EBGC000044
16M EEPROM IC
(NOT SUPPLIED)
VCC
+B
SCL
SDA
6
5
1,2,4,5,7,8,10,
11,13-15,17,18,
252,254,256
217,220,221,223
224,226-228,230,
233,237,238
234
232
249
251
240
243
241
244
245
248
21,30,31,43,45
23-25,27,32,
33,36,37,39-42,
46,47,50,51
192-195,197-200,
203,204,206-208
210-212
22
38
52
73
59
60
MDQ0
MDQ15
MA0
MA11
BA0
BA1
DQM0
DQM1
NCSM
MCK
MCKI
NRAS
NCAS
NWE
EXADR16
EXADR20
EXADT0
EXADT15
MDQ16
MDQ31
NEXWE
NEXCE
NEXOE
NRST
P9
P8
MN2DS0003APH
IC8001
DV2.1

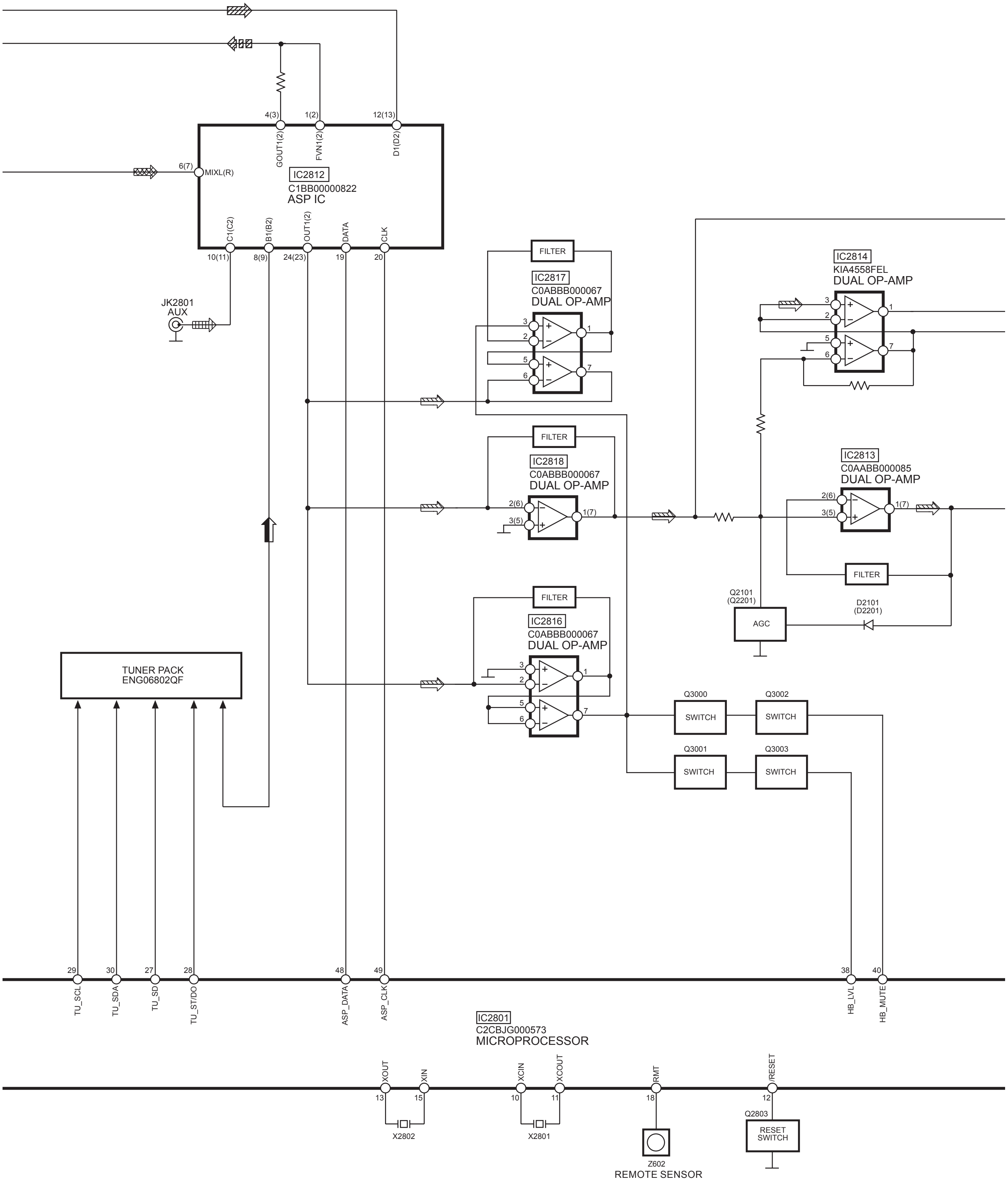

A
TO MAIN BLOCK
MIXL(R)
FL(R)
ZFLAG&AMUTE
CMD
IECOUT
STATUS
+B
DSPCLK
QR8111
SWITCH
QR8112
SWITCH
15(14)
10(9)
VOUTL(R)
VOUT3(4)
IC8420
C0FBBK000049
AUDIO DAC
LRCK
DATA1
BCK
SCK
MD
MC
MS
ZERO2
8
6
7
5
4
3
2
16
5
IC8111
C0CBCBD00018
3.3V
REGULATOR
8
4
IC8695
C0JBAA000346
LOGIC IC
5
1
2
4
IC8691
C0JBAA000346
LOGIC IC
5
1
2
QR8420
MUTING SWITCH
B
TO MAIN BLOCK
PY/Y/G
PB/CB/B
PR/CR/R
Y
C
169
171
170
163
57
56
53
55
149
151
152
156
158
70
177
69
68
LRCK
ADOUT3
SRCK
DACCK
P11
P12
P15
P13
DAC1OUT
DAC2OUT
DAC3OUT
DAC4OUT
DAC5OUT
P1
IECOUT
P2
P3
MN2DS0003APH
IC8001
DV2.1

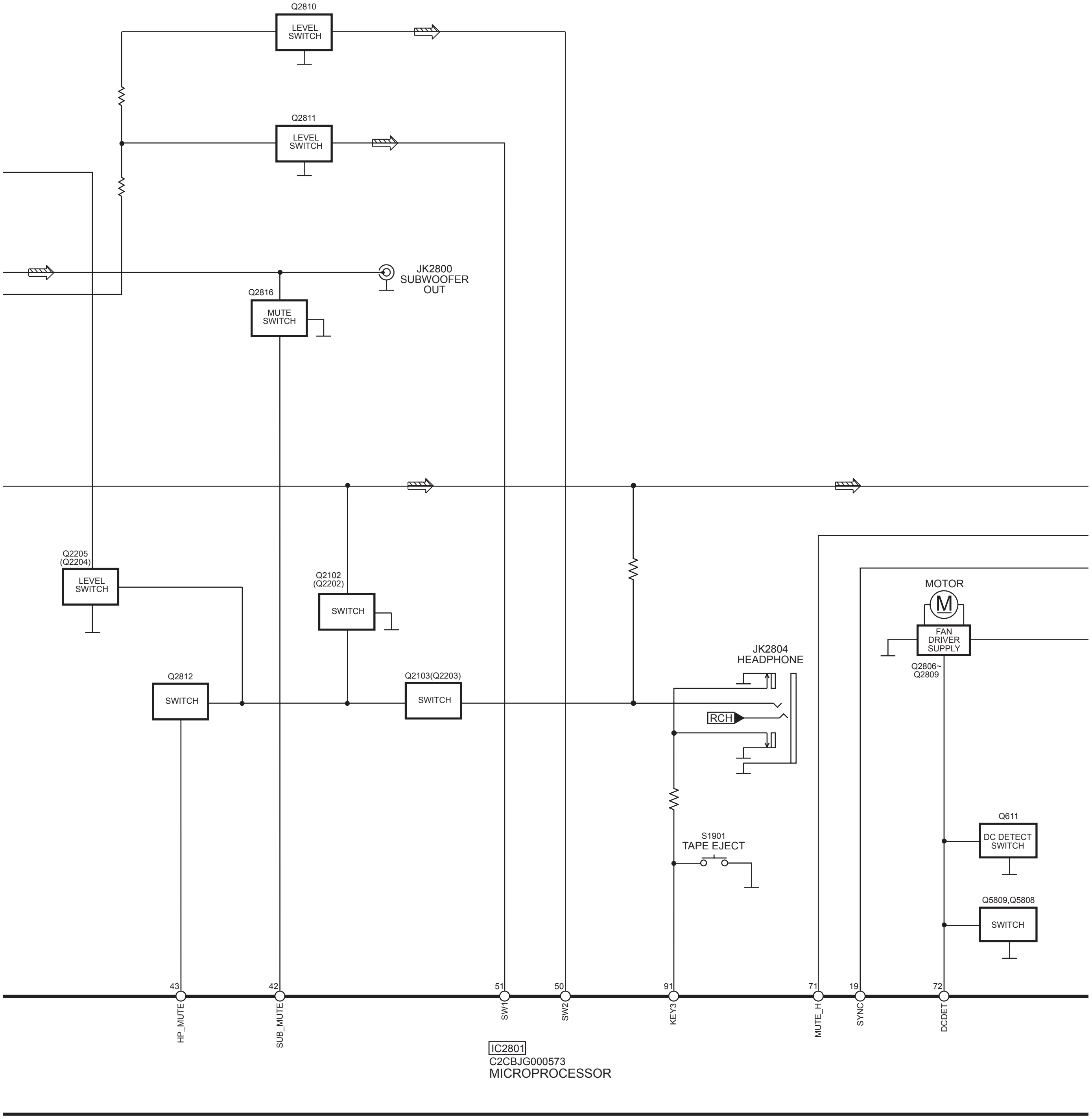
19.2. Main Block

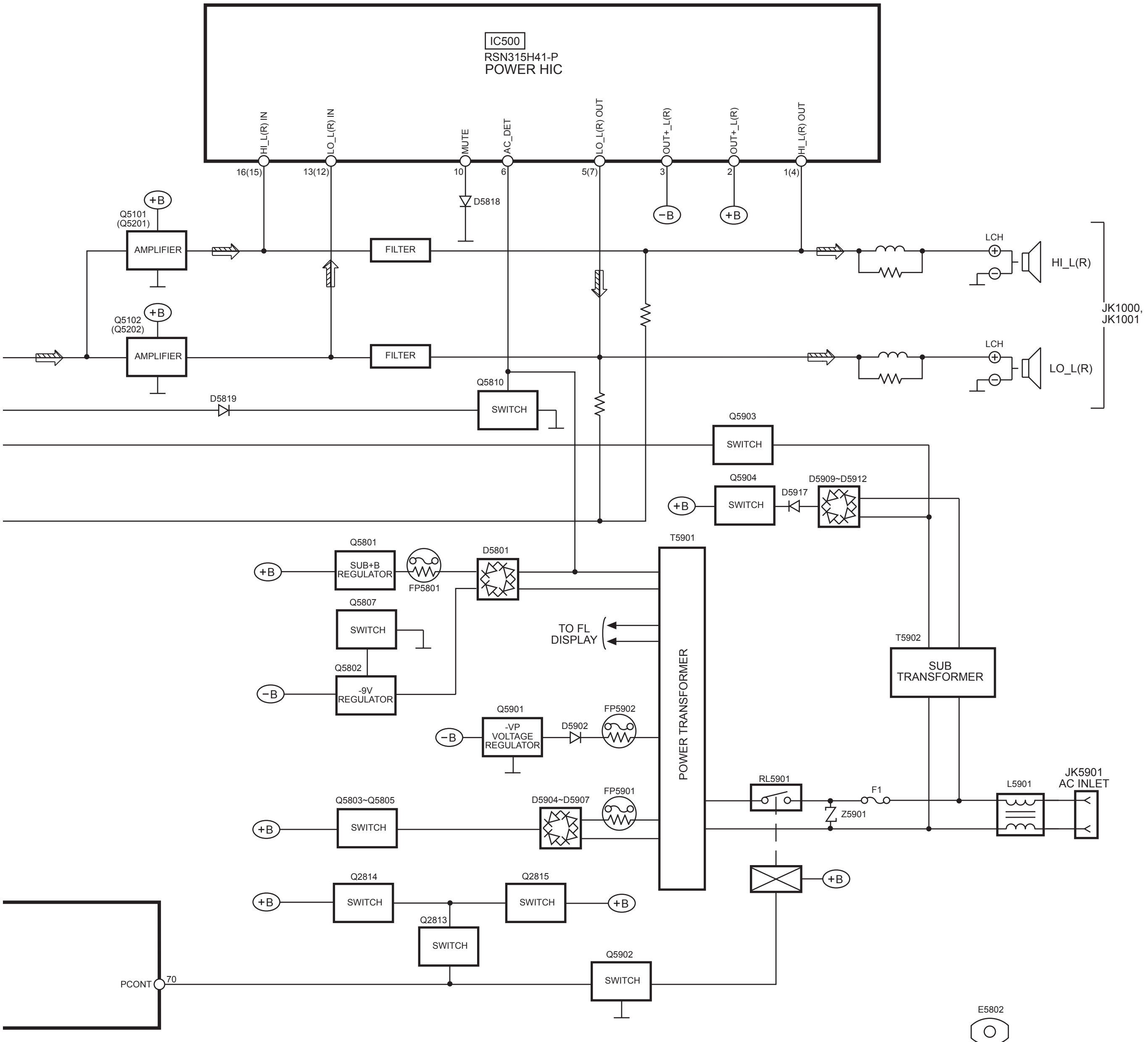

LCH
(DECK 2)
R/P HEAD
FILTER
IC1001
AN7326K
P/B REC AMP
22(1)
21(2)
20(3)
19(4)
18
17
16(7)
15(8)
14
13
12
10
+B
PB LIN(R)
PB L NF(R)
PB L EQ(R)
PB LOUT(R)
ALC LOW OUT
TPS GAIN ADJ
REC LIN(R)
REC L OUT(R)
ALC
NOR/CRO SW
VCC
RF
RIPPLE REJECTION
TPS
LOGIC
SWITCH
ALC
REC AMP (L)
MUTE
TPS OUT
PB/REC SW
6
9
Q1101
(Q1201)
MUTING SWITCH
IC1000
C1AA00000612
ANALOG SWITCH
2
3
5
4
Q1317
BEAT PROOF LEVEL SWITCH
Q1302
DECK MUTING CONT
LCH
(DECK 2)
ERASE HEAD
L1301
+B
Q1309,
Q1310,
Q1312
BIAS SWITCH
D1301
IC971
CNB13030R2AU
PHOTO
INTERRUPTER
S971
(MODE)
S972
(HALF)
S975
(RECINH_F)
Q1304
+B
SWITCH (REC:H)
Q1303
SWITCH
IC2802
C3EBEG000072
EEPROM
(NOT SUPPLIED)
3
4
5
6
79
25
24
23
90
89
78
80
PHOTO
E_CS
E_CLK
E_DA
DECK_AD2
DECK_AD1
REC
DMT
IC2801
C2CBJG000573
MICROPROCESSOR
JOG_A
JOG_B
76
75
KEY2
KEY1
92
97
VR601
VOLUME JOG
S607~S610,
S616~S621
KEY SW
S601~S606,
S611~S615
KEY SW


FL601
FL DISPLAY
FROM POWER TRANSFORMER
51,54
1G, 4G
P1
P35
50~84
2G
3G
5G
16G6
52
53
55~66
Q601, Q602
FL DRIVER
+B
16~23, 25~51
3
2
53~64
4,1
DIG00,DOG03
SEG00
SEG35
DIG01
DIG02
DIG04
DIG15
IC601
C0HBB0000039
FL DRIVER
Q2827
REGULATOR
11,52
VCC1,2
/RESET
/CS
SDATA
SCK
XIN
XOUT
5
6
8
7
13
12
RM11
UP/DOWN MOTOR
RM21
LOADING MOTOR
M
4
2
OUT1
OUT2
IC11
C0GAG0000007
UP/DOWN MOTOR DRIVER
IC21
C0GAG0000007
LOADING MOTOR DRIVER
F_IN
R_IN
7
9
Q603
SWITCH
D611,D612
D619,D620
87
88
85
84
86
26
20
3
2
FL_RST
FL_CS
FL_DA
FL_CLK
LED_CONTROL
UP/DOWN F
UP/DOWN R
OP/CL_FWD
OP/CL_REV
IC2801
C2CBJG000573
MICROPROCESSOR
PLUNGER
MOTOR
HB_LED
ST_SW
PLAY_SW
BOTTOM_SW
OPEN_SW
CHANGE_SW
83
82
65
1
100
22
4
21
Q2818
PLUNGER SWITCH
Q2817
MOTOR SWITCH
Q680
LED DRIVE
D680
S1 STOCK
S2 PLAY
S3 BOTTOM
S4 OPEN
S5 CHANGE
Q1315
SWITCH
MOTOR SUPPLY SWITCH
D971
PL
Q1314,Q1316


JK2806
COMPONENT
VIDEO
CR
Y
CB
JK2802
VIDEO OUT
JK2802
S.VIDEO OUT
G
Y
G
C
22 CBOUT
21 CBSAG
25 CYOUT
24 CYSAG
33 COUT
19 CROUT
18 CRSAG
31 VOUT
30 VSAG
28 YOUT
27 YSAG
IC2808
C9ZB00000431
VIDEO IC
CIN 2
YIN 6
CYIN 12
CBIN 14
MUTE2 15
CRIN 16
C_OUT
MIX_L(R)
Y_OUT
Y/PY/G
CB/PB/B
CR/PR/R
Q2805
SWITCH
JK2803
OPTICAL
AUDIODIGITAL
OP_CPU-CLK
OP_CPU-STAT
OP_CPU-CMD
Q2826
SWITCH
ZFLAG
A
TO DVD
BLOCK
IC2803,IC2804
C0DBAJG00002
REGULATOR
IC2805,IC2806,IC2807
C0DBEFG00003
C0DBZHG00016
C0DBZHE00011
REGULATOR
68 DVDPCONT
47 WIDE1
44 DVD_MUTE
45 RGBH
37 OP_CPU_CLK
36 OP_CPU_STAT
35 OP_CPU_CMD
IC2801
C2CBJG000573
MICROPROCESSOR
POSITION
5
Q1
PHOTO COUPLER
+B


4(3)
1(2)
12(13)
GOUT1(2)
FVN1(2)
D1(D2)
6(7)
MIXL(R)
IC2812
C1BB00000822
ASP IC
C1(C2)
B1(B2)
OUT1(2)
DATA
CLK
10(11)
8(9)
24(23)
19
20
JK2801
AUX
FILTER
IC2817
C0ABBB000067
DUAL OP-AMP
IC2814
KIA4558FEL
DUAL OP-AMP
IC2818
C0ABBB000067
DUAL OP-AMP
2(6)
3(5)
1(7)
IC2813
C0AABB000085
DUAL OP-AMP
Q2101
(Q2201)
AGC
D2101
(D2201)
IC2816
C0ABBB000067
DUAL OP-AMP
TUNER PACK
ENG06802QF
Q3000
SWITCH
Q3002
SWITCH
Q3001
SWITCH
Q3003
SWITCH
29
30
27
28
48
49
38
40
TU_SCL
TU_SDA
TU_SD
TU_ST/DO
ASP_DATA
ASP_CLK
HB_LVL
HB_MUTE
IC2801
C2CBJG000573
MICROPROCESSOR
XOUT
XIN
XCIN
XCOUT
RMT
RESET
13
15
10
11
18
12
X2802
X2801
Z602
REMOTE SENSOR
Q2803
RESET SWITCH


Q2810
LEVEL SWITCH
Q2811
LEVEL SWITCH
JK2800
SUBWOOFER
OUT
Q2816
MUTE SWITCH
Q2205
(Q2204)
LEVEL SWITCH
Q2102
(Q2202)
SWITCH
Q2812
SWITCH
Q2103(Q2203)
SWITCH
JK2804
HEADPHONE
RCH
S1901
TAPE EJECT
MOTOR
M
FAN DRIVER SUPPLY
Q2806~
Q2809
Q611
DC DETECT SWITCH
Q5809,Q5808
SWITCH
43
42
51
50
91
71
19
72
HP_MUTE
SUB_MUTE
SW1
SW2
KEY3
MUTE_H
SYNC
DCDET
IC2801
C2CBJG000573
MICROPROCESSOR


IC500
RSN315H41-P
POWER HIC
HI_L(R) IN
LO_L(R) IN
MUTE
AC_DET
LO_L(R) OUT
OUT+_L(R)
OUT+_L(R)
HI_L(R) OUT
16(15)
13(12)
10
6
5(7)
3
2
1(4)
D5818
−B
+B
+B
Q5101
(Q5201)
AMPLIFIER
FILTER
LCH
HI_L(R)
JK1000,
JK1001
+B
Q5102
(Q5202)
AMPLIFIER
FILTER
LCH
LO_L(R)
Q5810
D5819
SWITCH
Q5903
SWITCH
Q5904
D5909~D5912
D5917
+B
SWITCH
Q5801
D5801
T5901
+B
SUB+B
REGULATOR
FP5801
Q5807
SWITCH
TO FL
DISPLAY
T5902
Q5802
SUB
TRANSFORMER
−B
-9V
REGULATOR
Q5901
FP5902
D5902
−B
-VP
VOLTAGE
REGULATOR
POWER TRANSFORMER
RL5901
JK5901
AC INLET
F1
L5901
Q5803~Q5805
D5904~D5907
FP5901
Z5901
+B
SWITCH
Q2814
Q2815
+B
+B
SWITCH
SWITCH
+B
Q2813
SWITCH
Q5902
PCONT
70
SWITCH
E5802

SIGNAL LINES

⇨ : MAIN SIGNAL LINE
➡ : FM/AM SIGNAL LINE
⇨ : CD-DA SIGNAL LINE
⇨ : AUX SIGNAL LINE
⇨ : TAPE PLAYBACK SIGNAL LINE
⇨ : TAPE RECORD SIGNAL LINE
⇨ : DVD (AUDIO) SIGNAL LINE
⇨ : DVD (VIDEO) SIGNAL LINE

(   ) Indicates Pin No. of Right Channel

Note : Signal Lines are applicable to the Left Channel only.

20 Notes of Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

S1	Stock switch
S2	Play switch
S3	Bottom switch
S4	Open switch
S5	Change switch
S601	Bass/Treble switch
S602	REW switch
S603	DVD/CD switch
S604	FWD switch
S605	Tape switch
S606	Stop switch
S607	Disc 5 switch
S608	Disc_Change switch
S609	Open/Close switch
S610	H. Bass switch
S611	Tuner/Aux switch
S612	Disc_Check switch
S613	ADV_Surround switch
S613	Down switch
S614	Up switch
S616	Power switch
S617	Rec switch
S618	Disc 1 switch
S619	Disc 2 switch
S620	Disc 3 switch
S621	Disc 4 switch
S971	Mode switch
S972	Half switch
S973	CR02 switch
S975	Recinh_f switch
S1901	Tape Eject switch
VR601	Volume VR

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
- **Importance safety notice :**

  Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer´s specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 2A, 125V FUSE

RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

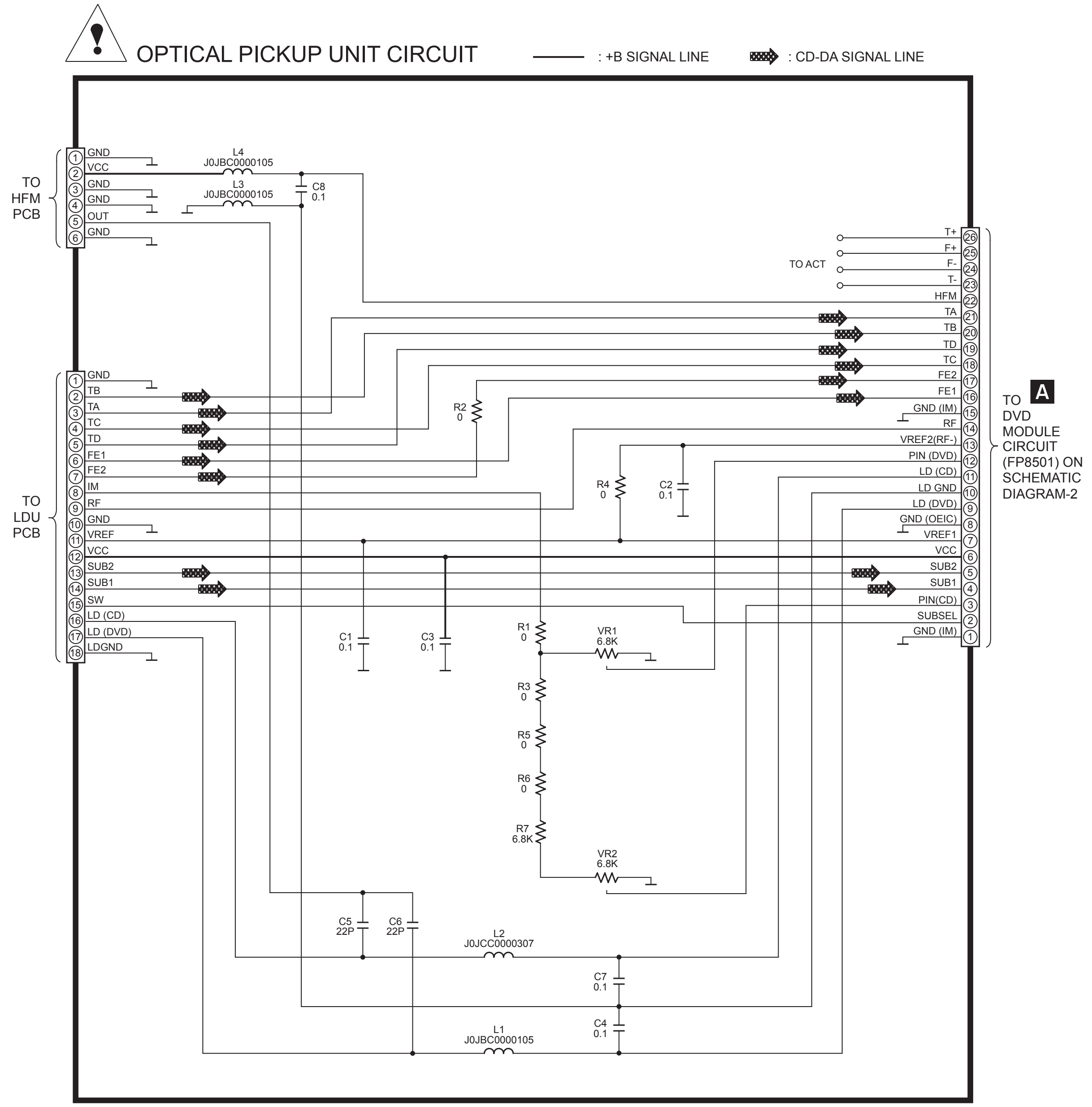
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

21 Schematic Diagram

21.1. Optical Pickup Unit Circuit

SCHEMATIC DIAGRAM - 1


OPTICAL PICKUP UNIT CIRCUIT
: +B SIGNAL LINE
: CD-DA SIGNAL LINE
TO HFM PCB
1 GND
2 VCC
3 GND
4 GND
5 OUT
6 GND
L4 J0JBC0000105
L3 J0JBC0000105
C8 0.1
TO LDU PCB
1 GND
2 TB
3 TA
4 TC
5 TD
6 FE1
7 FE2
8 IM
9 RF
10 GND
11 VREF
12 VCC
13 SUB2
14 SUB1
15 SW
16 LD (CD)
17 LD (DVD)
18 LDGND
TO ACT
T+ 26
F+ 25
F- 24
T- 23
HFM 22
TA 21
TB 20
TD 19
TC 18
FE2 17
FE1 16
GND (IM) 15
RF 14
VREF2(RF-) 13
PIN (DVD) 12
LD (CD) 11
LD GND 10
LD (DVD) 9
GND (OEIC) 8
VREF1 7
VCC 6
SUB2 5
SUB1 4
PIN(CD) 3
SUBSEL 2
GND (IM) 1
TO A DVD MODULE CIRCUIT (FP8501) ON SCHEMATIC DIAGRAM-2
R2 0
R4 0
C2 0.1
C1 0.1
C3 0.1
R1 0
VR1 6.8K
R3 0
R5 0
R6 0
R7 6.8K
VR2 6.8K
C5 22P
C6 22P
L2 J0JCC0000307
C7 0.1
C4 0.1
L1 J0JBC0000105

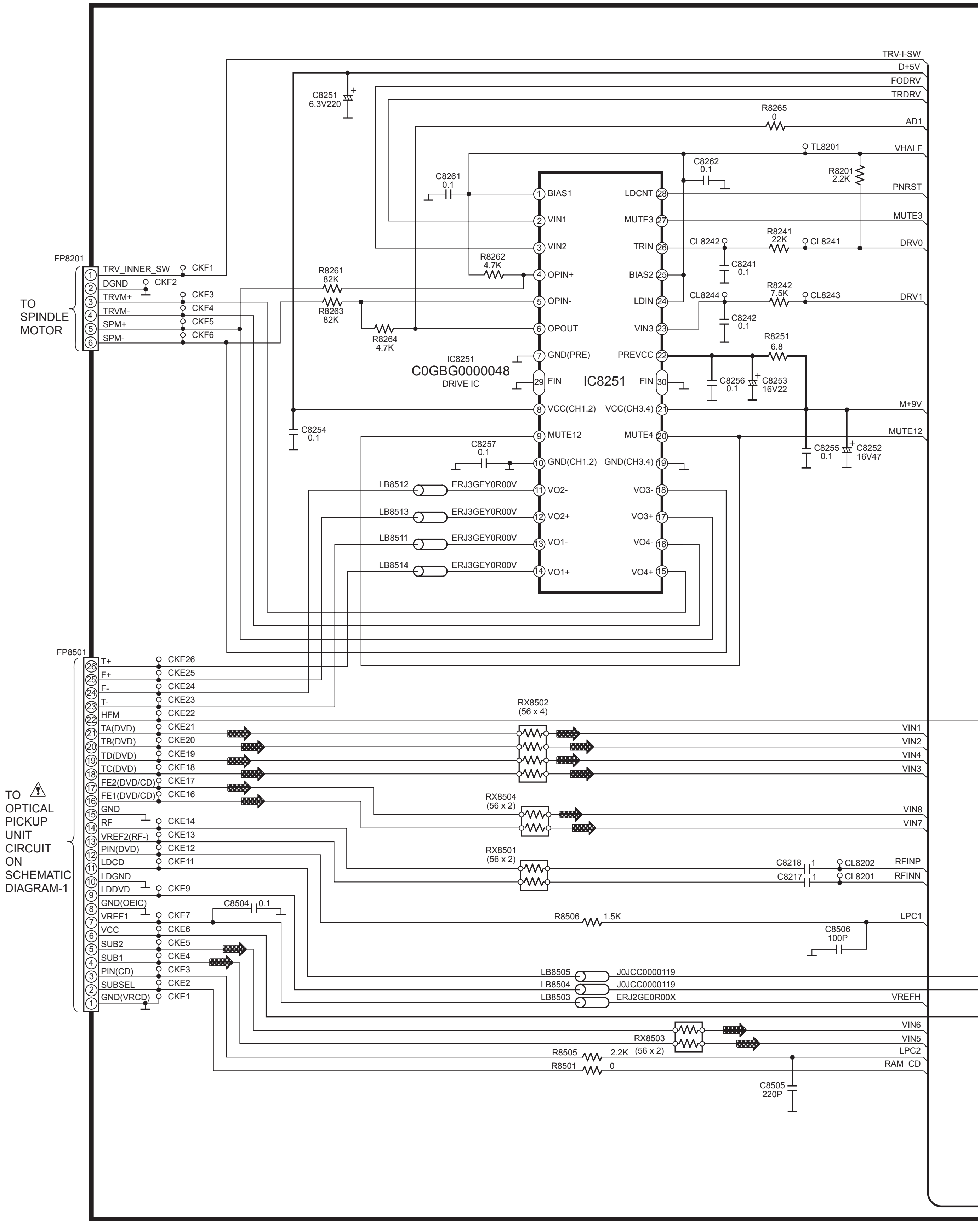
21.2. DVD Module Circuit

SCHEMATIC DIAGRAM - 2

A DVD MODULE CIRCUIT

—— : +B SIGNAL LINE

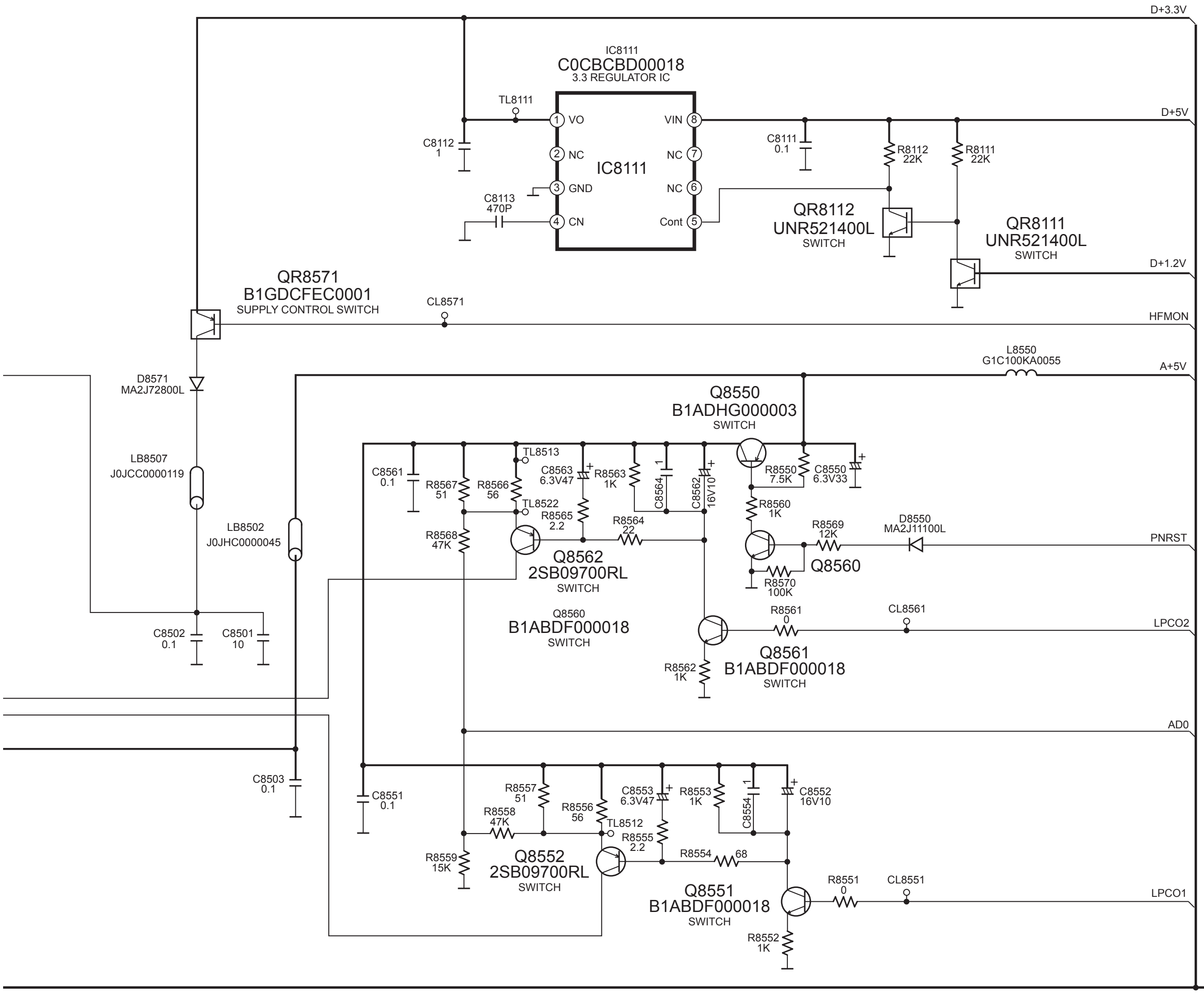
▨➡ : CD-DA SIGNAL LINE


TRV-I-SW
D+5V
FODRV
TRDRV
AD1
VHALF
PNRST
MUTE3
DRV0
DRV1
M+9V
MUTE12
C8251
6.3V220
R8265
0
TL8201
C8262
0.1
R8201
2.2K
C8261
0.1
BIAS1
VIN1
VIN2
OPIN+
OPIN-
OPOUT
GND(PRE)
FIN
VCC(CH1.2)
MUTE12
GND(CH1.2)
VO2-
VO2+
VO1-
VO1+
LDCNT
MUTE3
TRIN
BIAS2
LDIN
VIN3
PREVCC
FIN
VCC(CH3.4)
MUTE4
GND(CH3.4)
VO3-
VO3+
VO4-
VO4+
IC8251
C0GBG0000048
DRIVE IC
IC8251
R8262
4.7K
R8261
82K
R8263
82K
R8264
4.7K
CL8242
C8241
0.1
R8241
22K
CL8241
CL8244
C8242
0.1
R8242
7.5K
CL8243
R8251
6.8
C8256
0.1
C8253
16V22
C8254
0.1
C8257
0.1
C8255
0.1
C8252
16V47
LB8512
LB8513
LB8511
LB8514
ERJ3GEY0R00V
ERJ3GEY0R00V
ERJ3GEY0R00V
ERJ3GEY0R00V
FP8201
TRV_INNER_SW
DGND
TRVM+
TRVM-
SPM+
SPM-
CKF1
CKF2
CKF3
CKF4
CKF5
CKF6
TO SPINDLE MOTOR
FP8501
T+
F+
F-
T-
HFM
TA(DVD)
TB(DVD)
TD(DVD)
TC(DVD)
FE2(DVD/CD)
FE1(DVD/CD)
GND
RF
VREF2(RF-)
PIN(DVD)
LDCD
LDGND
LDDVD
GND(OEIC)
VREF1
VCC
SUB2
SUB1
PIN(CD)
SUBSEL
GND(VRCD)
CKE26
CKE25
CKE24
CKE23
CKE22
CKE21
CKE20
CKE19
CKE18
CKE17
CKE16
CKE14
CKE13
CKE12
CKE11
CKE9
CKE7
CKE6
CKE5
CKE4
CKE3
CKE2
CKE1
TO ⚠ OPTICAL PICKUP UNIT CIRCUIT ON SCHEMATIC DIAGRAM-1
RX8502
(56 x 4)
VIN1
VIN2
VIN4
VIN3
RX8504
(56 x 2)
VIN8
VIN7
RX8501
(56 x 2)
C8218
1
CL8202
RFINP
C8217
1
CL8201
RFINN
C8504
0.1
R8506
1.5K
LPC1
C8506
100P
LB8505
LB8504
LB8503
J0JCC0000119
J0JCC0000119
ERJ2GE0R00X
VREFH
VIN6
VIN5
RX8503
(56 x 2)
R8505
2.2K
LPC2
R8501
0
RAM_CD
C8505
220P

SCHEMATIC DIAGRAM - 3

A DVD MODULE CIRCUIT

: +B SIGNAL LINE


D+3.3V
IC8111
C0CBCBD00018
3.3 REGULATOR IC
TL8111
1 VO
2 NC
3 GND
4 CN
VIN 8
NC 7
NC 6
Cont 5
IC8111
C8112
1
C8113
470P
D+5V
C8111
0.1
R8112
22K
R8111
22K
QR8112
UNR521400L
SWITCH
QR8111
UNR521400L
SWITCH
D+1.2V
QR8571
B1GDCFEC0001
SUPPLY CONTROL SWITCH
CL8571
HFMON
L8550
G1C100KA0055
A+5V
D8571
MA2J72800L
Q8550
B1ADHG000003
SWITCH
LB8507
J0JCC0000119
TL8513
C8561
0.1
R8567
51
R8566
56
C8563
6.3V47
R8563
1K
C8564
1
C8562
16V10
R8550
7.5K
C8550
6.3V33
TL8522
R8565
2.2
R8564
22
R8560
1K
R8569
12K
D8550
MA2J11100L
PNRST
LB8502
J0JHC0000045
R8568
47K
Q8562
2SB09700RL
SWITCH
Q8560
R8570
100K
Q8560
B1ABDF000018
SWITCH
R8561
0
CL8561
LPCO2
C8502
0.1
C8501
10
R8562
1K
Q8561
B1ABDF000018
SWITCH
AD0
C8503
0.1
C8551
0.1
R8557
51
C8553
6.3V47
R8553
1K
C8554
1
C8552
16V10
R8558
47K
R8556
56
TL8512
R8555
2.2
R8554
68
R8559
15K
Q8552
2SB09700RL
SWITCH
R8551
0
CL8551
LPCO1
Q8551
B1ABDF000018
SWITCH
R8552
1K

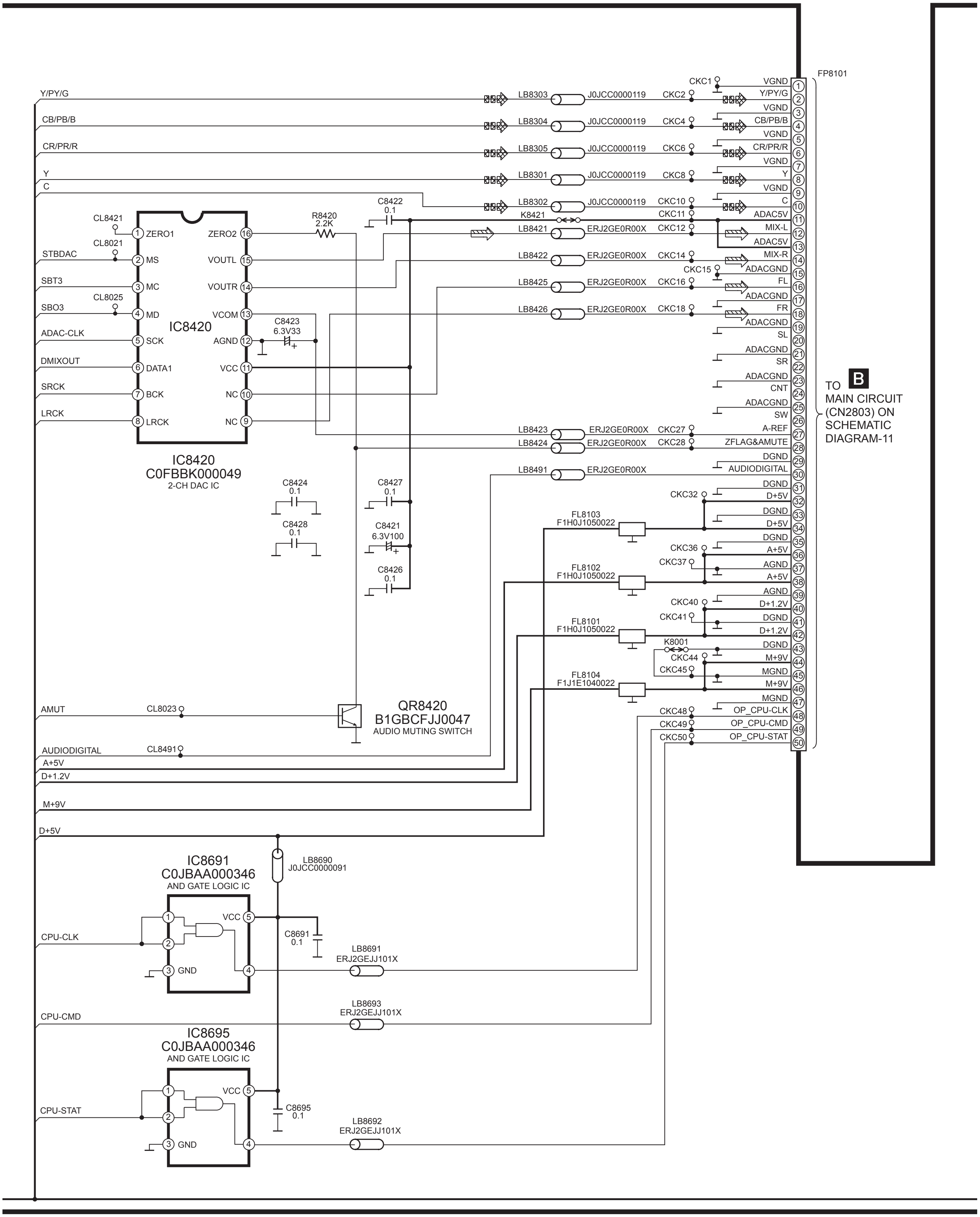
SCHEMATIC DIAGRAM - 4

A DVD MODULE CIRCUIT

⇨ : MAIN SIGNAL LINE

⇨ : DVD VIDEO SIGNAL LINE

—— : +B SIGNAL LINE

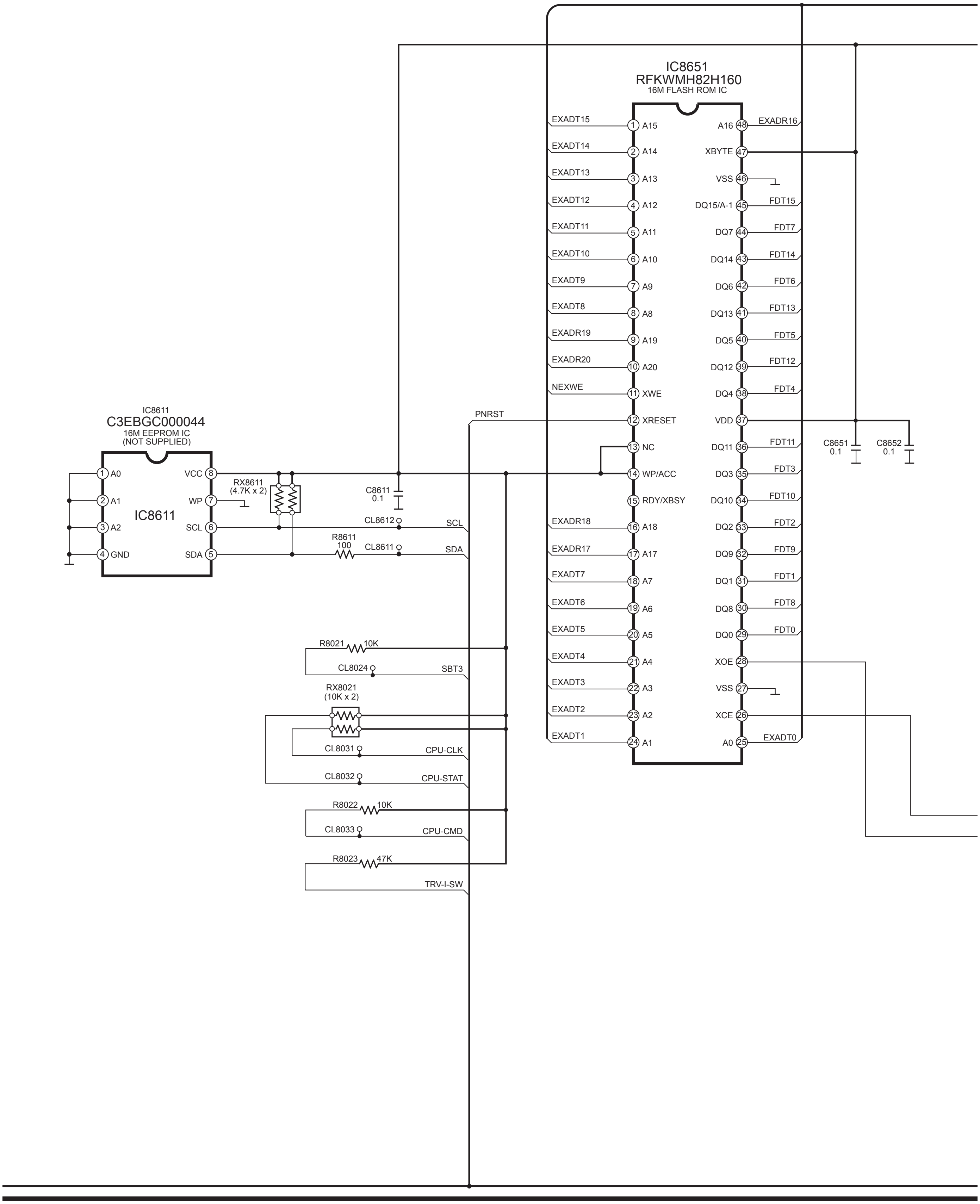


FP8101
TO B MAIN CIRCUIT (CN2803) ON SCHEMATIC DIAGRAM-11
1 VGND
2 Y/PY/G
3 VGND
4 CB/PB/B
5 VGND
6 CR/PR/R
7 VGND
8 Y
9 VGND
10 C
11 ADAC5V
12 MIX-L
13 ADAC5V
14 MIX-R
15 ADACGND
16 FL
17 ADACGND
18 FR
19 ADACGND
20 SL
21 ADACGND
22 SR
23 ADACGND
24 CNT
25 ADACGND
26 SW
27 A-REF
28 ZFLAG&AMUTE
29 DGND
30 AUDIODIGITAL
31 DGND
32 D+5V
33 DGND
34 D+5V
35 DGND
36 A+5V
37 AGND
38 A+5V
39 AGND
40 D+1.2V
41 DGND
42 D+1.2V
43 DGND
44 M+9V
45 MGND
46 M+9V
47 MGND
48 OP_CPU-CLK
49 OP_CPU-CMD
50 OP_CPU-STAT
CKC1
CKC2
CKC4
CKC6
CKC8
CKC10
CKC11
CKC12
CKC14
CKC15
CKC16
CKC18
CKC27
CKC28
CKC32
CKC36
CKC37
CKC40
CKC41
CKC44
CKC45
CKC48
CKC49
CKC50
K8001
LB8303 J0JCC0000119
LB8304 J0JCC0000119
LB8305 J0JCC0000119
LB8301 J0JCC0000119
LB8302 J0JCC0000119
K8421
LB8421 ERJ2GE0R00X
LB8422 ERJ2GE0R00X
LB8425 ERJ2GE0R00X
LB8426 ERJ2GE0R00X
LB8423 ERJ2GE0R00X
LB8424 ERJ2GE0R00X
LB8491 ERJ2GE0R00X
FL8103 F1H0J1050022
FL8102 F1H0J1050022
FL8101 F1H0J1050022
FL8104 F1J1E1040022
Y/PY/G
CB/PB/B
CR/PR/R
Y
C
STBDAC
SBT3
SBO3
ADAC-CLK
DMIXOUT
SRCK
LRCK
CL8421
CL8021
CL8025
IC8420
1 ZERO1
2 MS
3 MC
4 MD
5 SCK
6 DATA1
7 BCK
8 LRCK
16 ZERO2
15 VOUTL
14 VOUTR
13 VCOM
12 AGND
11 VCC
10 NC
9 NC
IC8420
C0FBBK000049
2-CH DAC IC
R8420 2.2K
C8422 0.1
C8423 6.3V33
C8424 0.1
C8428 0.1
C8427 0.1
C8421 6.3V100
C8426 0.1
AMUT
CL8023
QR8420
B1GBCFJJ0047
AUDIO MUTING SWITCH
AUDIODIGITAL
CL8491
A+5V
D+1.2V
M+9V
D+5V
IC8691
C0JBAA000346
AND GATE LOGIC IC
1
2
3 GND
VCC 5
4
CPU-CLK
LB8690 J0JCC0000091
C8691 0.1
LB8691 ERJ2GEJJ101X
CPU-CMD
LB8693 ERJ2GEJJ101X
IC8695
C0JBAA000346
AND GATE LOGIC IC
1
2
3 GND
VCC 5
4
CPU-STAT
C8695 0.1
LB8692 ERJ2GEJJ101X

SCHEMATIC DIAGRAM - 5

A DVD MODULE CIRCUIT

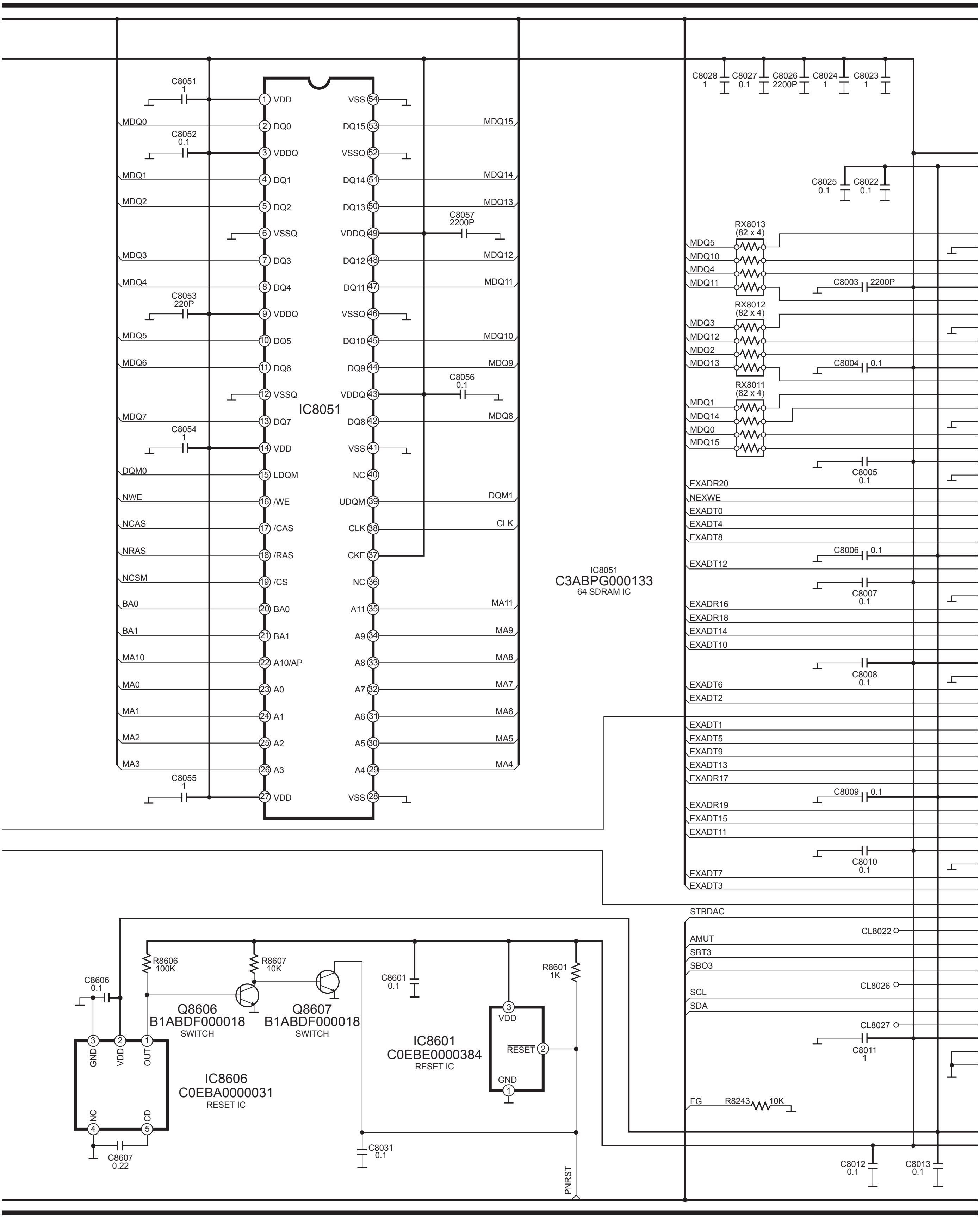
——— : +B SIGNAL LINE


IC8651
RFKWMH82H160
16M FLASH ROM IC
EXADT15 1 A15
EXADT14 2 A14
EXADT13 3 A13
EXADT12 4 A12
EXADT11 5 A11
EXADT10 6 A10
EXADT9 7 A9
EXADT8 8 A8
EXADR19 9 A19
EXADR20 10 A20
NEXWE 11 XWE
PNRST 12 XRESET
13 NC
14 WP/ACC
15 RDY/XBSY
EXADR18 16 A18
EXADR17 17 A17
EXADT7 18 A7
EXADT6 19 A6
EXADT5 20 A5
EXADT4 21 A4
EXADT3 22 A3
EXADT2 23 A2
EXADT1 24 A1
A16 48 EXADR16
XBYTE 47
VSS 46
DQ15/A-1 45 FDT15
DQ7 44 FDT7
DQ14 43 FDT14
DQ6 42 FDT6
DQ13 41 FDT13
DQ5 40 FDT5
DQ12 39 FDT12
DQ4 38 FDT4
VDD 37
DQ11 36 FDT11
DQ3 35 FDT3
DQ10 34 FDT10
DQ2 33 FDT2
DQ9 32 FDT9
DQ1 31 FDT1
DQ8 30 FDT8
DQ0 29 FDT0
XOE 28
VSS 27
XCE 26
A0 25 EXADT0
C8651 0.1
C8652 0.1
IC8611
C3EBGC000044
16M EEPROM IC
(NOT SUPPLIED)
IC8611
1 A0
2 A1
3 A2
4 GND
VCC 8
WP 7
SCL 6
SDA 5
RX8611 (4.7K x 2)
C8611 0.1
CL8612
SCL
R8611 100
CL8611
SDA
R8021 10K
CL8024
SBT3
RX8021 (10K x 2)
CL8031
CPU-CLK
CL8032
CPU-STAT
R8022 10K
CL8033
CPU-CMD
R8023 47K
TRV-I-SW

SCHEMATIC DIAGRAM - 6

A DVD MODULE CIRCUIT

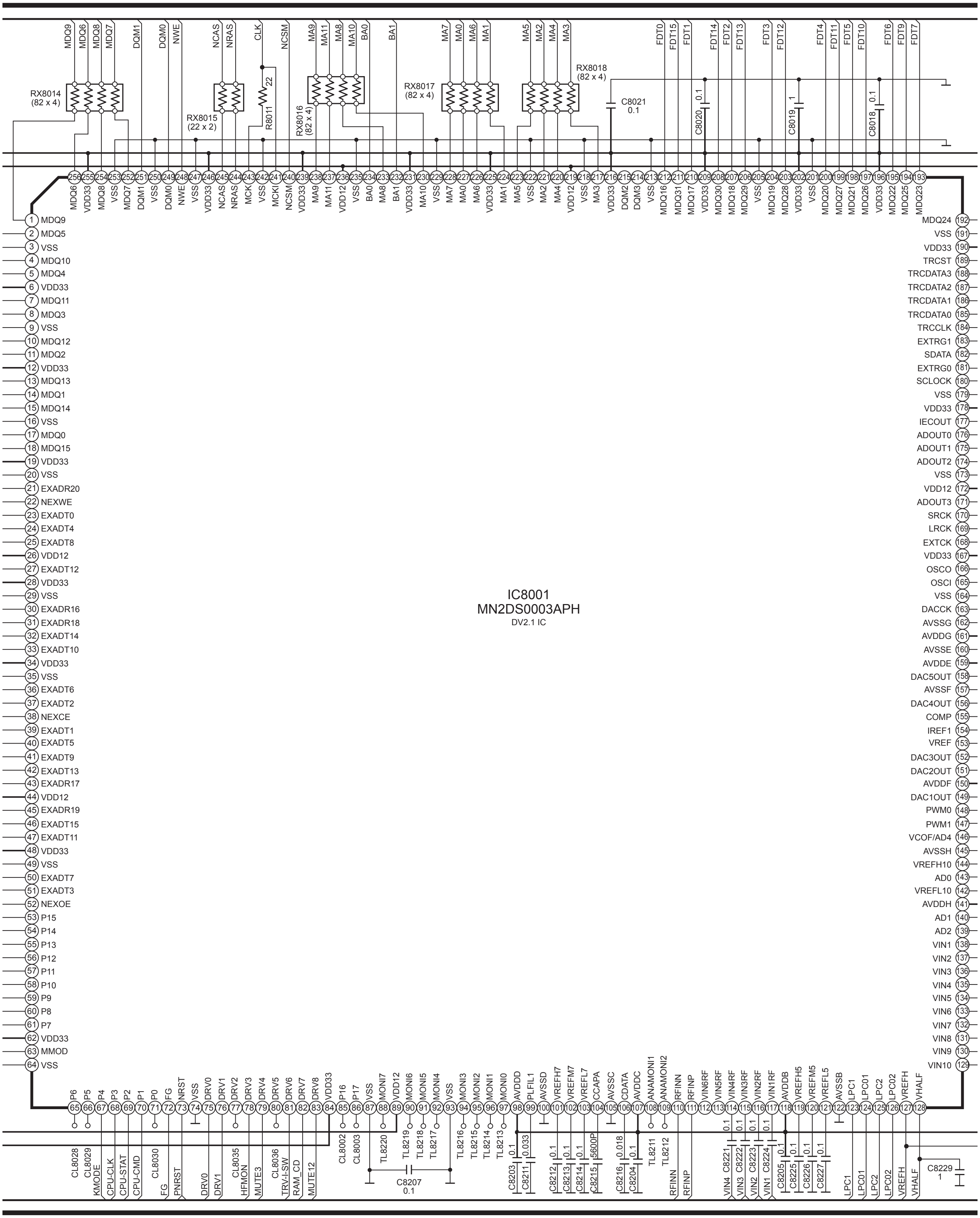
: +B SIGNAL LINE


C8051
1
C8052
0.1
C8053
220P
C8054
1
C8055
1
C8057
2200P
C8056
0.1
1 VDD
2 DQ0
3 VDDQ
4 DQ1
5 DQ2
6 VSSQ
7 DQ3
8 DQ4
9 VDDQ
10 DQ5
11 DQ6
12 VSSQ
13 DQ7
14 VDD
15 LDQM
16 /WE
17 /CAS
18 /RAS
19 /CS
20 BA0
21 BA1
22 A10/AP
23 A0
24 A1
25 A2
26 A3
27 VDD
28 VSS
29 A4
30 A5
31 A6
32 A7
33 A8
34 A9
35 A11
36 NC
37 CKE
38 CLK
39 UDQM
40 NC
41 VSS
42 DQ8
43 VDDQ
44 DQ9
45 DQ10
46 VSSQ
47 DQ11
48 DQ12
49 VDDQ
50 DQ13
51 DQ14
52 VSSQ
53 DQ15
54 VSS
IC8051
MDQ0
MDQ1
MDQ2
MDQ3
MDQ4
MDQ5
MDQ6
MDQ7
DQM0
NWE
NCAS
NRAS
NCSM
BA0
BA1
MA10
MA0
MA1
MA2
MA3
MDQ15
MDQ14
MDQ13
MDQ12
MDQ11
MDQ10
MDQ9
MDQ8
DQM1
CLK
MA11
MA9
MA8
MA7
MA6
MA5
MA4
IC8051
C3ABPG000133
64 SDRAM IC
C8028
1
C8027
0.1
C8026
2200P
C8024
1
C8023
1
C8025
0.1
C8022
0.1
RX8013
(82 x 4)
MDQ5
MDQ10
MDQ4
MDQ11
C8003
2200P
RX8012
(82 x 4)
MDQ3
MDQ12
MDQ2
MDQ13
C8004
0.1
RX8011
(82 x 4)
MDQ1
MDQ14
MDQ0
MDQ15
C8005
0.1
EXADR20
NEXWE
EXADT0
EXADT4
EXADT8
C8006
0.1
EXADT12
C8007
0.1
EXADR16
EXADR18
EXADT14
EXADT10
C8008
0.1
EXADT6
EXADT2
EXADT1
EXADT5
EXADT9
EXADT13
EXADR17
C8009
0.1
EXADR19
EXADT15
EXADT11
C8010
0.1
EXADT7
EXADT3
STBDAC
CL8022
AMUT
SBT3
SBO3
CL8026
SCL
SDA
CL8027
C8011
1
FG
R8243
10K
C8012
0.1
C8013
0.1
C8606
0.1
R8606
100K
R8607
10K
Q8606
B1ABDF000018
SWITCH
Q8607
B1ABDF000018
SWITCH
C8601
0.1
R8601
1K
3 GND
2 VDD
1 OUT
4 NC
5 CD
IC8606
C0EBA0000031
RESET IC
C8607
0.22
C8031
0.1
3 VDD
2 RESET
1 GND
IC8601
C0EBE0000384
RESET IC
PNRST

SCHEMATIC DIAGRAM - 7

A DVD MODULE CIRCUIT

: +B SIGNAL LINE


MDQ9
MDQ6
MDQ8
MDQ7
DQM1
DQM0
NWE
NCAS
NRAS
CLK
NCSM
MA9
MA11
MA8
MA10
BA0
BA1
MA7
MA0
MA6
MA1
MA5
MA2
MA4
MA3
FDT0
FDT15
FDT1
FDT14
FDT2
FDT13
FDT3
FDT12
FDT4
FDT11
FDT5
FDT10
FDT6
FDT9
FDT7
RX8014 (82 x 4)
RX8015 (22 x 2)
R8011 22
RX8016 (82 x 4)
RX8017 (82 x 4)
RX8018 (82 x 4)
C8021 0.1
C8020 0.1
C8019 1
C8018 0.1
256 MDQ6
255 VDD33
254 MDQ8
253 VSS
252 MDQ7
251 DQM1
250 VSS
249 DQM0
248 NWE
247 VSS
246 VDD33
245 NCAS
244 NRAS
243 MCK
242 VSS
241 MCKI
240 NCSM
239 VDD33
238 MA9
237 MA11
236 VDD12
235 VSS
234 BA0
233 MA8
232 BA1
231 VDD33
230 MA10
229 VSS
228 MA7
227 MA0
226 MA6
225 VDD33
224 MA1
223 MA5
222 VSS
221 MA2
220 MA4
219 VDD12
218 VSS
217 MA3
216 VDD33
215 DQM2
214 DQM3
213 VSS
212 MDQ16
211 MDQ31
210 MDQ17
209 VDD33
208 MDQ30
207 MDQ18
206 MDQ29
205 VSS
204 MDQ19
203 MDQ28
202 VDD33
201 VSS
200 MDQ20
199 MDQ27
198 MDQ21
197 MDQ26
196 VDD33
195 MDQ22
194 MDQ25
193 MDQ23
1 MDQ9
2 MDQ5
3 VSS
4 MDQ10
5 MDQ4
6 VDD33
7 MDQ11
8 MDQ3
9 VSS
10 MDQ12
11 MDQ2
12 VDD33
13 MDQ13
14 MDQ1
15 MDQ14
16 VSS
17 MDQ0
18 MDQ15
19 VDD33
20 VSS
21 EXADR20
22 NEXWE
23 EXADT0
24 EXADT4
25 EXADT8
26 VDD12
27 EXADT12
28 VDD33
29 VSS
30 EXADR16
31 EXADR18
32 EXADT14
33 EXADT10
34 VDD33
35 VSS
36 EXADT6
37 EXADT2
38 NEXCE
39 EXADT1
40 EXADT5
41 EXADT9
42 EXADT13
43 EXADR17
44 VDD12
45 EXADR19
46 EXADT15
47 EXADT11
48 VDD33
49 VSS
50 EXADT7
51 EXADT3
52 NEXOE
53 P15
54 P14
55 P13
56 P12
57 P11
58 P10
59 P9
60 P8
61 P7
62 VDD33
63 MMOD
64 VSS
MDQ24 192
VSS 191
VDD33 190
TRCST 189
TRCDATA3 188
TRCDATA2 187
TRCDATA1 186
TRCDATA0 185
TRCCLK 184
EXTRG1 183
SDATA 182
EXTRG0 181
SCLOCK 180
VSS 179
VDD33 178
IECOUT 177
ADOUT0 176
ADOUT1 175
ADOUT2 174
VSS 173
VDD12 172
ADOUT3 171
SRCK 170
LRCK 169
EXTCK 168
VDD33 167
OSCO 166
OSCI 165
VSS 164
DACCK 163
AVSSG 162
AVDDG 161
AVSSE 160
AVDDE 159
DAC5OUT 158
AVSSF 157
DAC4OUT 156
COMP 155
IREF1 154
VREF 153
DAC3OUT 152
DAC2OUT 151
AVDDF 150
DAC1OUT 149
PWM0 148
PWM1 147
VCOF/AD4 146
AVSSH 145
VREFH10 144
AD0 143
VREFL10 142
AVDDH 141
AD1 140
AD2 139
VIN1 138
VIN2 137
VIN3 136
VIN4 135
VIN5 134
VIN6 133
VIN7 132
VIN8 131
VIN9 130
VIN10 129
IC8001
MN2DS0003APH
DV2.1 IC
65 P6
66 P5
67 P4
68 P3
69 P2
70 P1
71 P0
72 FG
73 NRST
74 VSS
75 DRV0
76 DRV1
77 DRV2
78 DRV3
79 DRV4
80 DRV5
81 DRV6
82 DRV7
83 DRV8
84 VDD33
85 P16
86 P17
87 VSS
88 MONI7
89 VDD12
90 MONI6
91 MONI5
92 MONI4
93 VSS
94 MONI3
95 MONI2
96 MONI1
97 MONI0
98 AVDDD
99 PLFIL1
100 AVSSD
101 VREFH7
102 VREFM7
103 VREFL7
104 CCAPA
105 AVSSC
106 CDATA
107 AVDDC
108 ANAMONI1
109 ANAMONI2
110 RFINN
111 RFINP
112 VIN6RF
113 VIN5RF
114 VIN4RF
115 VIN3RF
116 VIN2RF
117 VIN1RF
118 AVDDB
119 VREFH5
120 VREFM5
121 VREFL5
122 AVSSB
123 LPC1
124 LPC01
125 LPC2
126 LPC02
127 VREFH
128 VHALF
CL8028
CL8029
KMODE
CPU-CLK
CPU-STAT
CPU-CMD
CL8030
FG
PNRST
DRV0
DRV1
CL8035
HFMON
MUTE3
CL8036
TRV-I-SW
RAM_CD
MUTE12
CL8002
CL8003
TL8220
TL8219
TL8218
TL8217
C8207 0.1
TL8216
TL8215
TL8214
TL8213
C8203 0.1
C8211 0.033
C8212 0.1
C8213 0.1
C8214 0.1
C8215 5600P
C8216 0.018
C8204 0.1
TL8211
TL8212
RFINN
RFINP
VIN4 C8221 0.1
VIN3 C8222 0.1
VIN2 C8223 0.1
VIN1 C8224 0.1
C8205 0.1
C8225 0.1
C8226 0.1
C8227 0.1
LPC1
LPC01
LPC2
LPC02
VREFH
VHALF
C8229 1

SCHEMATIC DIAGRAM - 8

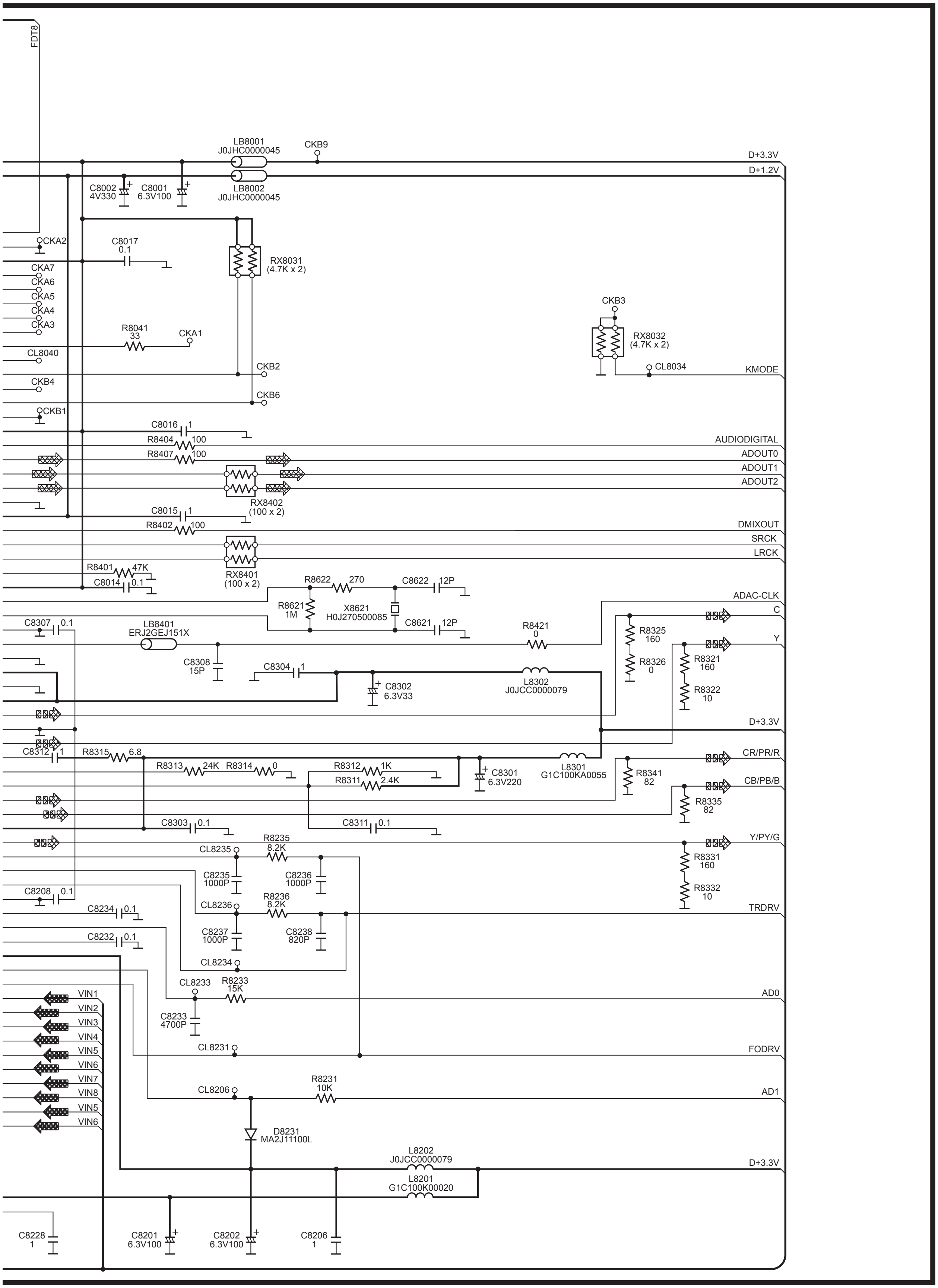
A DVD MODULE CIRCUIT

: CD-DA SIGNAL LINE

: +B SIGNAL LINE

: DVD VIDEO SIGNAL LINE

: DVD AUDIO SIGNAL LINE


FDT8
LB8001
J0JHC0000045
CKB9
D+3.3V
D+1.2V
C8002
4V330
C8001
6.3V100
LB8002
J0JHC0000045
CKA2
C8017
0.1
RX8031
(4.7K x 2)
CKA7
CKA6
CKA5
CKA4
CKA3
R8041
33
CKA1
CKB3
RX8032
(4.7K x 2)
CL8040
CKB2
CL8034
KMODE
CKB4
CKB6
CKB1
C8016
1
R8404
100
R8407
100
AUDIODIGITAL
ADOUT0
ADOUT1
ADOUT2
RX8402
(100 x 2)
C8015
1
R8402
100
DMIXOUT
SRCK
LRCK
R8401
47K
C8014
0.1
RX8401
(100 x 2)
R8622
270
C8622
12P
ADAC-CLK
R8621
1M
X8621
H0J270500085
C8621
12P
C
C8307
0.1
LB8401
ERJ2GEJ151X
R8421
0
R8325
160
Y
C8308
15P
C8304
1
R8326
0
R8321
160
C8302
6.3V33
L8302
J0JCC0000079
R8322
10
D+3.3V
C8312
1
R8315
6.8
L8301
G1C100KA0055
CR/PR/R
R8313
24K
R8314
0
R8312
1K
C8301
6.3V220
R8341
82
R8311
2.4K
CB/PB/B
R8335
82
C8303
0.1
C8311
0.1
R8235
8.2K
Y/PY/G
CL8235
R8331
160
C8235
1000P
C8236
1000P
C8208
0.1
C8234
0.1
R8236
8.2K
R8332
10
CL8236
TRDRV
C8237
1000P
C8238
820P
C8232
0.1
CL8234
CL8233
R8233
15K
VIN1
AD0
VIN2
VIN3
C8233
4700P
VIN4
VIN5
CL8231
FODRV
VIN6
VIN7
CL8206
R8231
10K
AD1
VIN8
VIN5
VIN6
D8231
MA2J11100L
L8202
J0JCC0000079
D+3.3V
L8201
G1C100K00020
C8228
1
C8201
6.3V100
C8202
6.3V100
C8206
1

21.3. Main Circuit

SCHEMATIC DIAGRAM-9

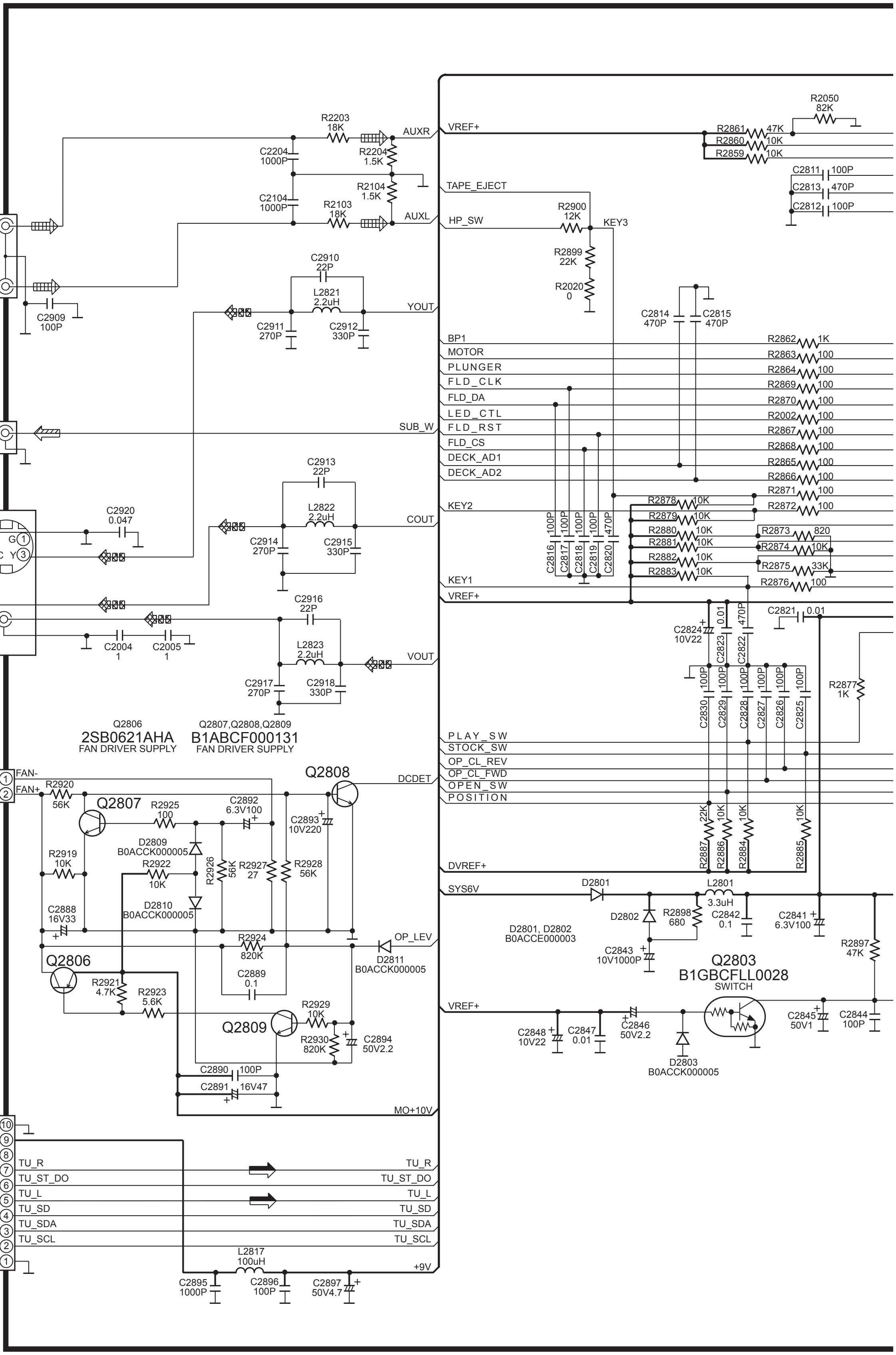
B MAIN CIRCUIT

———— : +B SIGNAL LINE

: DVD (VIDEO) SIGNAL LINE

: AUX SIGNAL LINE

: FM/AM SIGNAL LINE



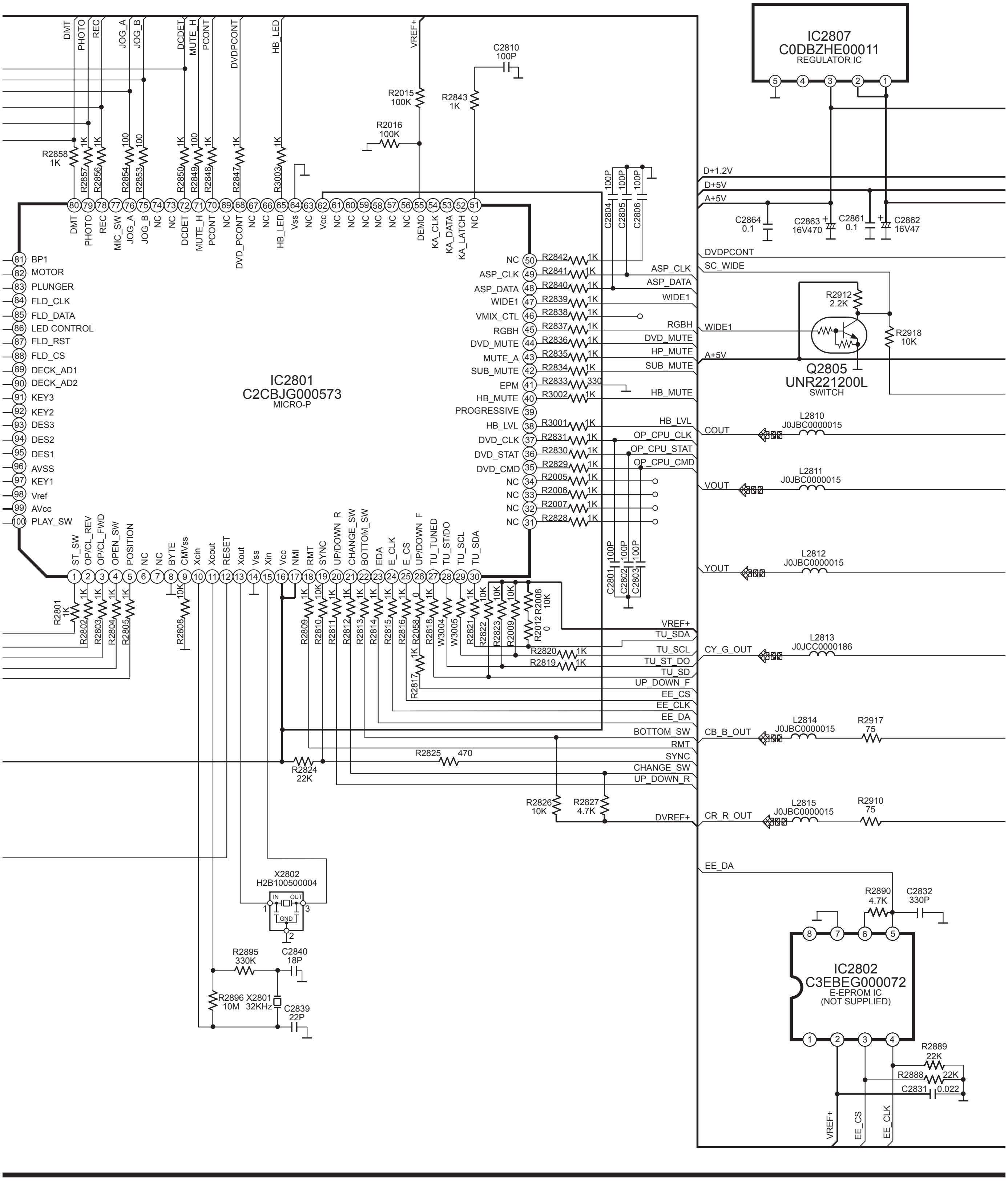
JK2801
RIGHT CH
AUX
LEFT CH
C2909
100P
R2203
18K
C2204
1000P
R2204
1.5K
AUXR
R2104
1.5K
C2104
1000P
R2103
18K
AUXL
C2910
22P
L2821
2.2uH
YOUT
C2911
270P
C2912
330P
SUB WOOFER
OUT
JK2800
SUB_W
C2913
22P
L2822
2.2uH
COUT
C2914
270P
C2915
330P
C2920
0.047
S.VIDEO_OUT
G
C
Y
VIDEO_OUT
C2004
1
C2005
1
JK2802
C2916
22P
L2823
2.2uH
VOUT
C2917
270P
C2918
330P
Q2806
2SB0621AHA
FAN DRIVER SUPPLY
Q2807,Q2808,Q2809
B1ABCF000131
FAN DRIVER SUPPLY
TO
FAN
CN2808
FAN-
FAN+
R2920
56K
Q2807
R2925
100
C2892
6.3V100
Q2808
DCDET
C2893
10V220
D2809
B0ACCK000005
R2919
10K
R2922
10K
R2926
56K
R2927
27
R2928
56K
D2810
B0ACCK000005
C2888
16V33
R2924
820K
OP_LEV
D2811
B0ACCK000005
Q2806
R2921
4.7K
R2923
5.6K
C2889
0.1
R2929
10K
Q2809
R2930
820K
C2894
50V2.2
C2890
100P
C2891
16V47
MO+10V
TO TUNER
PACK T1
ENG06810QF
CN2804
TU_R
TU_ST_DO
TU_L
TU_SD
TU_SDA
TU_SCL
L2817
100uH
+9V
C2895
1000P
C2896
100P
C2897
50V4.7
VREF+
TAPE_EJECT
HP_SW
R2900
12K
KEY3
R2899
22K
R2020
0
R2050
82K
R2861
47K
R2860
10K
R2859
10K
C2811
100P
C2813
470P
C2812
100P
C2814
470P
C2815
470P
BP1
MOTOR
PLUNGER
FLD_CLK
FLD_DA
LED_CTL
FLD_RST
FLD_CS
DECK_AD1
DECK_AD2
KEY2
KEY1
VREF+
R2862
1K
R2863
100
R2864
100
R2869
100
R2870
100
R2002
100
R2867
100
R2868
100
R2865
100
R2866
100
R2871
100
R2872
100
C2816
100P
C2817
100P
C2818
100P
C2819
100P
C2820
470P
R2878
10K
R2879
10K
R2880
10K
R2881
10K
R2882
10K
R2883
10K
R2873
820
R2874
10K
R2875
33K
R2876
100
C2824
10V22
C2823
0.01
C2822
470P
C2821
0.01
C2830
100P
C2829
100P
C2828
100P
C2827
100P
C2826
100P
C2825
100P
R2877
1K
PLAY_SW
STOCK_SW
OP_CL_REV
OP_CL_FWD
OPEN_SW
POSITION
R2887
22K
R2886
10K
R2884
10K
R2885
10K
DVREF+
SYS6V
D2801
L2801
3.3uH
D2802
R2898
680
C2842
0.1
C2841
6.3V100
D2801, D2802
B0ACCE000003
C2843
10V1000P
R2897
47K
Q2803
B1GBCFLL0028
SWITCH
VREF+
C2848
10V22
C2847
0.01
C2846
50V2.2
D2803
B0ACCK000005
C2845
50V1
C2844
100P

SCHEMATIC DIAGRAM-10

B MAIN CIRCUIT

: +B SIGNAL LINE

: DVD (VIDEO) SIGNAL LINE

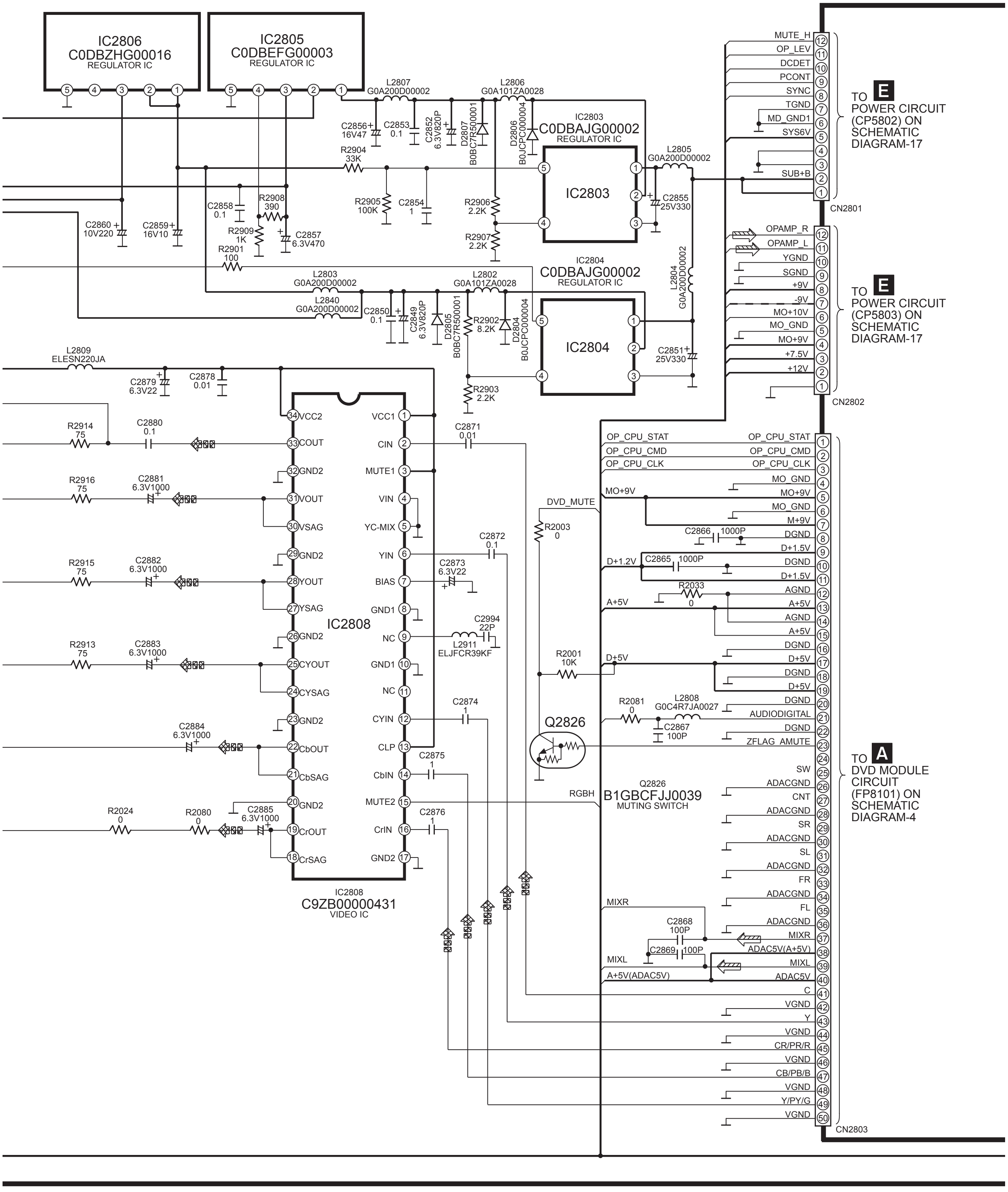


IC2801
C2CBJG000573
MICRO-P
IC2807
C0DBZHE00011
REGULATOR IC
IC2802
C3EBEG000072
E-EPROM IC
(NOT SUPPLIED)
Q2805
UNR221200L
SWITCH
X2802
H2B100500004
X2801
32KHz
DMT
PHOTO
REC
JOG_A
JOG_B
DCDET
MUTE_H
PCONT
DVDPCONT
HB_LED
VREF+
C2810
100P
R2015
100K
R2843
1K
R2016
100K
R2858
1K
R2857
R2856
R2854
R2853
R2850
R2849
R2848
R2847
R3003
MIC_SW
DVD_PCONT
Vss
Vcc
NC
DEMO
KA_CLK
KA_DATA
KA_LATCH
BP1
MOTOR
PLUNGER
FLD_CLK
FLD_DATA
LED CONTROL
FLD_RST
FLD_CS
DECK_AD1
DECK_AD2
KEY3
KEY2
DES3
DES2
DES1
AVSS
KEY1
Vref
AVcc
PLAY_SW
ASP_CLK
ASP_DATA
WIDE1
VMIX_CTL
RGBH
DVD_MUTE
MUTE_A
SUB_MUTE
EPM
HB_MUTE
PROGRESSIVE
HB_LVL
DVD_CLK
DVD_STAT
DVD_CMD
R2842
R2841
R2840
R2839
R2838
R2837
R2836
R2835
R2834
R2833
330
R3002
R3001
R2831
R2830
R2829
R2005
R2006
R2007
R2828
C2804
C2805
C2806
100P
HP_MUTE
OP_CPU_CLK
OP_CPU_STAT
OP_CPU_CMD
D+1.2V
D+5V
A+5V
C2864
0.1
C2863
16V470
C2861
0.1
C2862
16V47
DVDPCONT
SC_WIDE
R2912
2.2K
R2918
10K
COUT
L2810
J0JBC0000015
VOUT
L2811
J0JBC0000015
YOUT
L2812
J0JBC0000015
CY_G_OUT
L2813
J0JCC0000186
CB_B_OUT
L2814
J0JBC0000015
R2917
75
CR_R_OUT
L2815
J0JBC0000015
R2910
75
EE_DA
R2890
4.7K
C2832
330P
R2889
22K
R2888
22K
C2831
0.022
VREF+
EE_CS
EE_CLK
ST_SW
OP/CL_REV
OP/CL_FWD
OPEN_SW
POSITION
BYTE
CMVss
Xcin
Xcout
RESET
Xout
Xin
NMI
RMT
SYNC
UP/DOWN R
CHANGE_SW
BOTTOM_SW
EDA
E_CLK
E_CS
UP/DOWN F
TU_TUNED
TU_ST/DO
TU_SCL
TU_SDA
R2801
R2802
R2803
R2804
R2805
R2808
R2809
R2810
R2811
R2812
R2813
R2814
R2815
R2816
R2058
R2817
R2818
W3004
W3005
R2821
R2822
R2823
R2009
R2012
R2008
C2801
C2802
C2803
R2820
R2819
TU_SDA
TU_SCL
TU_ST_DO
TU_SD
UP_DOWN_F
EE_CS
EE_CLK
EE_DA
BOTTOM_SW
RMT
SYNC
CHANGE_SW
UP_DOWN_R
DVREF+
R2825
470
R2824
22K
R2826
10K
R2827
4.7K
R2895
330K
C2840
18P
R2896
10M
C2839
22P

SCHEMATIC DIAGRAM-11

B MAIN CIRCUIT

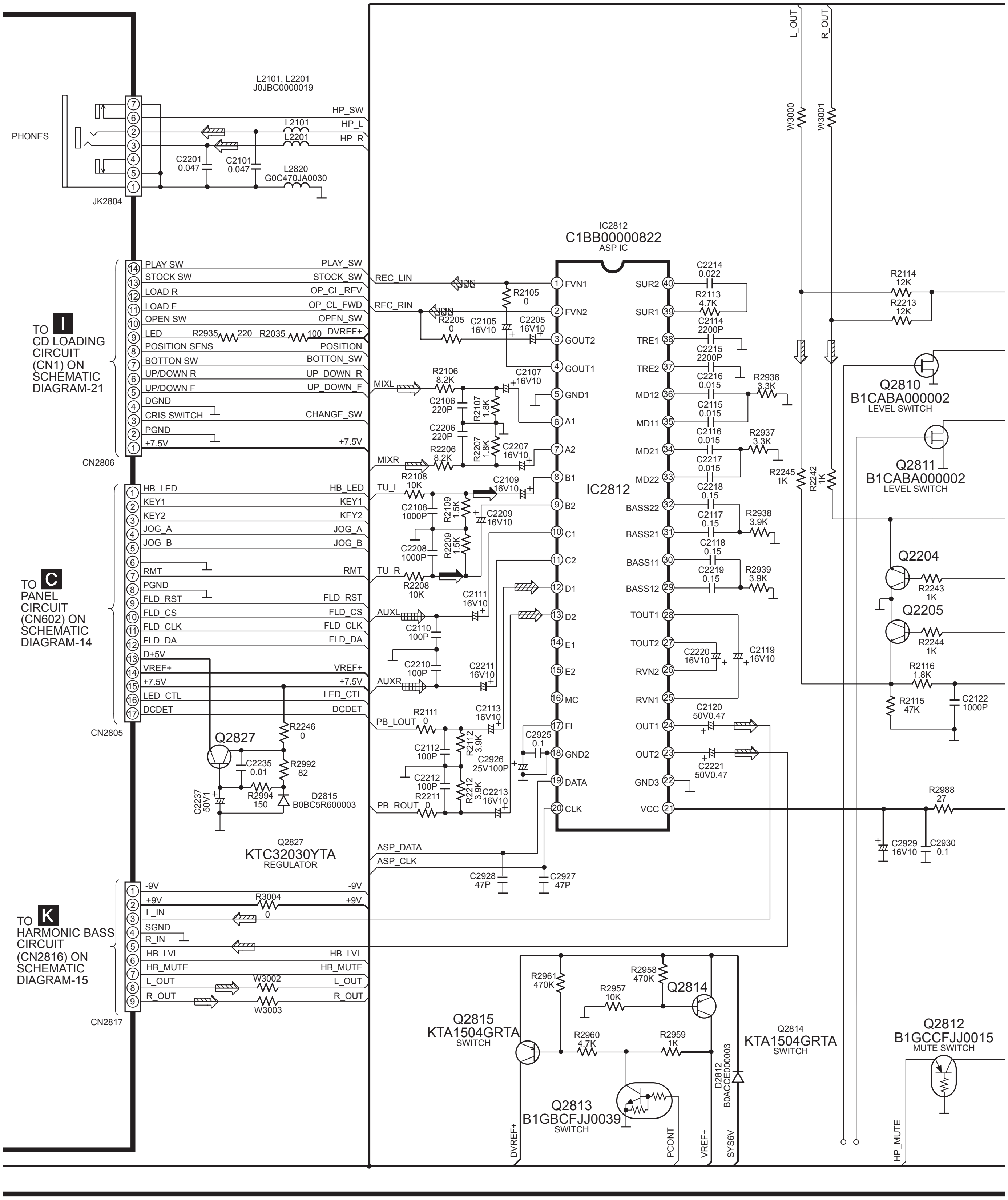
- - - : - B SIGNAL LINE
—— : +B SIGNAL LINE
▧▧▧⇨ : DVD (VIDEO) SIGNAL LINE
⇨ : MAIN SIGNAL LINE


IC2806
C0DBZHG00016
REGULATOR IC
IC2805
C0DBEFG00003
REGULATOR IC
L2807
G0A200D00002
L2806
G0A101ZA0028
IC2803
C0DBAJG00002
REGULATOR IC
C2856 16V47
C2853 0.1
C2852 6.3V820P
D2807 B0BC7R500001
D2806 B0JCPC000004
R2904 33K
L2805
G0A200D00002
C2855 25V330
C2858 0.1
R2908 390
R2905 100K
C2854 1
R2906 2.2K
R2907 2.2K
C2860 10V220
C2859 16V10
R2909 1K
C2857 6.3V470
R2901 100
IC2804
C0DBAJG00002
REGULATOR IC
L2803
G0A200D00002
L2802
G0A101ZA0028
L2804
G0A200D00002
L2840
G0A200D00002
C2850 0.1
C2849 6.3V820P
D2805 B0BC7R500001
R2902 8.2K
D2804 B0JCPC000004
C2851 25V330
L2809
ELESN220JA
C2879 6.3V22
C2878 0.01
R2903 2.2K
R2914 75
C2880 0.1
R2916 75
C2881 6.3V1000
R2915 75
C2882 6.3V1000
R2913 75
C2883 6.3V1000
C2884 6.3V1000
R2024 0
R2080 0
C2885 6.3V1000
VCC2
COUT
GND2
VOUT
VSAG
GND2
YOUT
YSAG
GND2
CYOUT
CYSAG
GND2
CbOUT
CbSAG
GND2
CrOUT
CrSAG
VCC1
CIN
MUTE1
VIN
YC-MIX
YIN
BIAS
GND1
NC
GND1
NC
CYIN
CLP
CbIN
MUTE2
CrIN
GND2
IC2808
C2871 0.01
C2872 0.1
C2873 6.3V22
C2994 22P
L2911
ELJFCR39KF
C2874 1
C2875 1
C2876 1
IC2808
C9ZB00000431
VIDEO IC
MUTE_H
OP_LEV
DCDET
PCONT
SYNC
TGND
MD_GND1
SYS6V
SUB+B
CN2801
TO E
POWER CIRCUIT
(CP5802) ON
SCHEMATIC
DIAGRAM-17
OPAMP_R
OPAMP_L
YGND
SGND
+9V
-9V
MO+10V
MO_GND
MO+9V
+7.5V
+12V
CN2802
TO E
POWER CIRCUIT
(CP5803) ON
SCHEMATIC
DIAGRAM-17
OP_CPU_STAT
OP_CPU_CMD
OP_CPU_CLK
DVD_MUTE
MO+9V
R2003 0
C2866 1000P
D+1.2V
C2865 1000P
R2033 0
A+5V
R2001 10K
D+5V
R2081 0
L2808
G0C4R7JA0027
C2867 100P
Q2826
RGBH
Q2826
B1GBCFJJ0039
MUTING SWITCH
MIXR
C2868 100P
C2869 100P
MIXL
A+5V(ADAC5V)
OP_CPU_STAT
OP_CPU_CMD
OP_CPU_CLK
MO_GND
MO+9V
MO_GND
M+9V
DGND
D+1.5V
DGND
D+1.5V
AGND
A+5V
AGND
A+5V
DGND
D+5V
DGND
D+5V
DGND
AUDIODIGITAL
DGND
ZFLAG_AMUTE
SW
ADACGND
CNT
ADACGND
SR
ADACGND
SL
ADACGND
FR
ADACGND
FL
ADACGND
MIXR
ADAC5V(A+5V)
MIXL
ADAC5V
C
VGND
Y
VGND
CR/PR/R
VGND
CB/PB/B
VGND
Y/PY/G
VGND
CN2803
TO A
DVD MODULE
CIRCUIT
(FP8101) ON
SCHEMATIC
DIAGRAM-4

SCHEMATIC DIAGRAM-12

B MAIN CIRCUIT

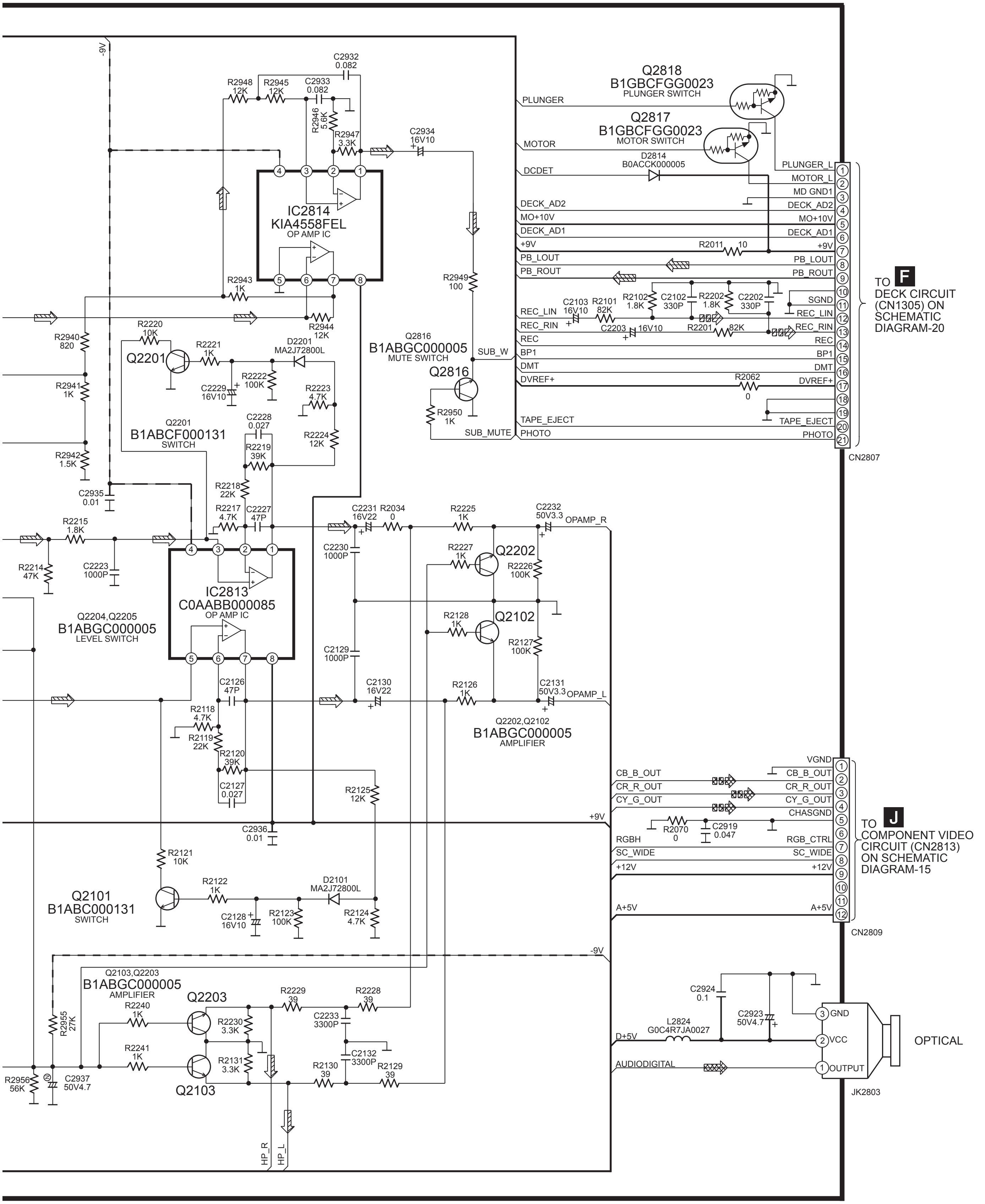
: MAIN SIGNAL LINE
: - B SIGNAL LINE
: +B SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: TAPE RECORD SIGNAL LINE
: FM/AM SIGNAL LINE
: AUX SIGNAL LINE


L_OUT
R_OUT
W3000
W3001
PHONES
JK2804
L2101, L2201
J0JBC0000019
HP_SW
HP_L
HP_R
L2101
L2201
C2201 0.047
C2101 0.047
L2820 G0C470JA0030
IC2812
C1BB00000822
ASP IC
TO I CD LOADING CIRCUIT (CN1) ON SCHEMATIC DIAGRAM-21
PLAY SW
STOCK SW
LOAD R
LOAD F
OPEN SW
LED
R2935 220
R2035 100
POSITION SENS
BOTTON SW
UP/DOWN R
UP/DOWN F
DGND
CRIS SWITCH
PGND
+7.5V
PLAY_SW
STOCK_SW
OP_CL_REV
OP_CL_FWD
OPEN_SW
DVREF+
POSITION
BOTTON_SW
UP_DOWN_R
UP_DOWN_F
CHANGE_SW
+7.5V
CN2806
REC_LIN
REC_RIN
R2105 0
R2205 0
C2105 16V10
C2205 16V10
R2106 8.2K
C2107 16V10
MIXL
C2106 220P
R2107 1.8K
C2206 220P
R2207 1.8K
R2206 8.2K
C2207 16V10
MIXR
R2108 10K
C2109 16V10
TU_L
C2108 1000P
R2109 1.5K
C2209 16V10
C2208 1000P
R2209 1.5K
TU_R
R2208 10K
C2111 16V10
AUXL
C2110 100P
C2210 100P
C2211 16V10
AUXR
R2111 0
C2113 16V10
PB_LOUT
C2112 100P
R2112 3.9K
C2926 25V100P
C2925 0.1
C2212 100P
R2212 3.9K
C2213 16V10
R2211 0
PB_ROUT
ASP_DATA
ASP_CLK
C2928 47P
C2927 47P
FVN1
FVN2
GOUT2
GOUT1
GND1
A1
A2
B1
B2
C1
C2
D1
D2
E1
E2
MC
FL
GND2
DATA
CLK
IC2812
SUR2
SUR1
TRE1
TRE2
MD12
MD11
MD21
MD22
BASS22
BASS21
BASS11
BASS12
TOUT1
TOUT2
RVN2
RVN1
OUT1
OUT2
GND3
VCC
C2214 0.022
R2113 4.7K
C2114 2200P
C2215 2200P
C2216 0.015
R2936 3.3K
C2115 0.015
C2116 0.015
R2937 3.3K
C2217 0.015
C2218 0.15
C2117 0.15
R2938 3.9K
C2118 0.15
C2219 0.15
R2939 3.9K
C2220 16V10
C2119 16V10
C2120 50V0.47
C2221 50V0.47
R2114 12K
R2213 12K
Q2810
B1CABA000002
LEVEL SWITCH
Q2811
B1CABA000002
LEVEL SWITCH
R2245 1K
R2242 1K
Q2204
R2243 1K
Q2205
R2244 1K
R2116 1.8K
R2115 47K
C2122 1000P
R2988 27
C2929 16V10
C2930 0.1
TO C PANEL CIRCUIT (CN602) ON SCHEMATIC DIAGRAM-14
HB_LED
KEY1
KEY2
JOG_A
JOG_B
RMT
PGND
FLD_RST
FLD_CS
FLD_CLK
FLD_DA
D+5V
VREF+
+7.5V
LED_CTL
DCDET
HB_LED
KEY1
KEY2
JOG_A
JOG_B
RMT
FLD_RST
FLD_CS
FLD_CLK
FLD_DA
VREF+
+7.5V
LED_CTL
DCDET
CN2805
Q2827
R2246 0
C2235 0.01
R2992 82
C2237 50V1
R2994 150
D2815 B0BC5R600003
Q2827
KTC32030YTA
REGULATOR
TO K HARMONIC BASS CIRCUIT (CN2816) ON SCHEMATIC DIAGRAM-15
-9V
+9V
L_IN
SGND
R_IN
HB_LVL
HB_MUTE
L_OUT
R_OUT
-9V
+9V
R3004 0
HB_LVL
HB_MUTE
L_OUT
R_OUT
W3002
W3003
CN2817
R2961 470K
R2958 470K
Q2814
R2957 10K
Q2815
KTA1504GRTA
SWITCH
R2960 4.7K
R2959 1K
Q2814
KTA1504GRTA
SWITCH
D2812 B0ACCE000003
Q2813
B1GBCFJJ0039
SWITCH
Q2812
B1GCCFJJ0015
MUTE SWITCH
DVREF+
PCONT
VREF+
SYS6V
HP_MUTE

SCHEMATIC DIAGRAM-13

B MAIN CIRCUIT

⇨ : MAIN SIGNAL LINE
- - - : - B SIGNAL LINE
——— : +B SIGNAL LINE
▨ : TAPE PLAYBACK SIGNAL LINE
▨ : TAPE RECORD SIGNAL LINE
▨ : DVD (AUDIO) SIGNAL LINE
▨ : DVD (VIDEO) SIGNAL LINE


-9V
C2932 0.082
R2948 12K
R2945 12K
C2933 0.082
R2946 5.6K
R2947 3.3K
C2934 16V10
IC2814
KIA4558FEL
OP AMP IC
R2943 1K
R2944 12K
R2949 100
R2940 820
R2941 1K
R2942 1.5K
C2935 0.01
R2220 10K
Q2201
R2221 1K
D2201
MA2J72800L
R2222 100K
C2229 16V10
R2223 4.7K
Q2201
B1ABCF000131
SWITCH
C2228 0.027
R2224 12K
R2219 39K
R2218 22K
R2217 4.7K
C2227 47P
Q2816
B1ABGC000005
MUTE SWITCH
Q2816
R2950 1K
SUB_W
SUB_MUTE
Q2818
B1GBCFGG0023
PLUNGER SWITCH
Q2817
B1GBCFGG0023
MOTOR SWITCH
D2814
B0ACCK000005
PLUNGER
MOTOR
DCDET
DECK_AD2
MO+10V
DECK_AD1
+9V
PB_LOUT
PB_ROUT
REC_LIN
REC_RIN
REC
BP1
DMT
DVREF+
TAPE_EJECT
PHOTO
R2011 10
C2103 16V10
R2101 82K
R2102 1.8K
C2102 330P
R2202 1.8K
C2202 330P
C2203 16V10
R2201 82K
R2062 0
PLUNGER_L
MOTOR_L
MD GND1
DECK_AD2
MO+10V
DECK_AD1
+9V
PB_LOUT
PB_ROUT
SGND
REC_LIN
REC_RIN
REC
BP1
DMT
DVREF+
TAPE_EJECT
PHOTO
CN2807
TO F
DECK CIRCUIT
(CN1305) ON
SCHEMATIC
DIAGRAM-20
R2215 1.8K
R2214 47K
C2223 1000P
IC2813
C0AABB000085
OP AMP IC
Q2204,Q2205
B1ABGC000005
LEVEL SWITCH
C2231 16V22
R2034 0
R2225 1K
C2232 50V3.3
OPAMP_R
C2230 1000P
R2227 1K
Q2202
R2226 100K
R2128 1K
Q2102
R2127 100K
C2129 1000P
C2126 47P
C2130 16V22
R2126 1K
C2131 50V3.3
OPAMP_L
Q2202,Q2102
B1ABGC000005
AMPLIFIER
R2118 4.7K
R2119 22K
R2120 39K
C2127 0.027
R2125 12K
C2936 0.01
+9V
R2121 10K
Q2101
B1ABC000131
SWITCH
R2122 1K
D2101
MA2J72800L
C2128 16V10
R2123 100K
R2124 4.7K
CB_B_OUT
CR_R_OUT
CY_G_OUT
RGBH
SC_WIDE
+12V
A+5V
R2070 0
C2919 0.047
VGND
CB_B_OUT
CR_R_OUT
CY_G_OUT
CHASGND
RGB_CTRL
SC_WIDE
+12V
A+5V
CN2809
TO J
COMPONENT VIDEO
CIRCUIT (CN2813)
ON SCHEMATIC
DIAGRAM-15
-9V
Q2103,Q2203
B1ABGC000005
AMPLIFIER
Q2203
R2240 1K
R2241 1K
R2230 3.3K
R2131 3.3K
Q2103
R2229 39
R2228 39
C2233 3300P
C2132 3300P
R2130 39
R2129 39
R2955 27K
R2956 56K
C2937 50V4.7
HP_R
HP_L
C2924 0.1
C2923 50V4.7
L2824
G0C4R7JA0027
D+5V
AUDIODIGITAL
GND
VCC
OUTPUT
JK2803
OPTICAL

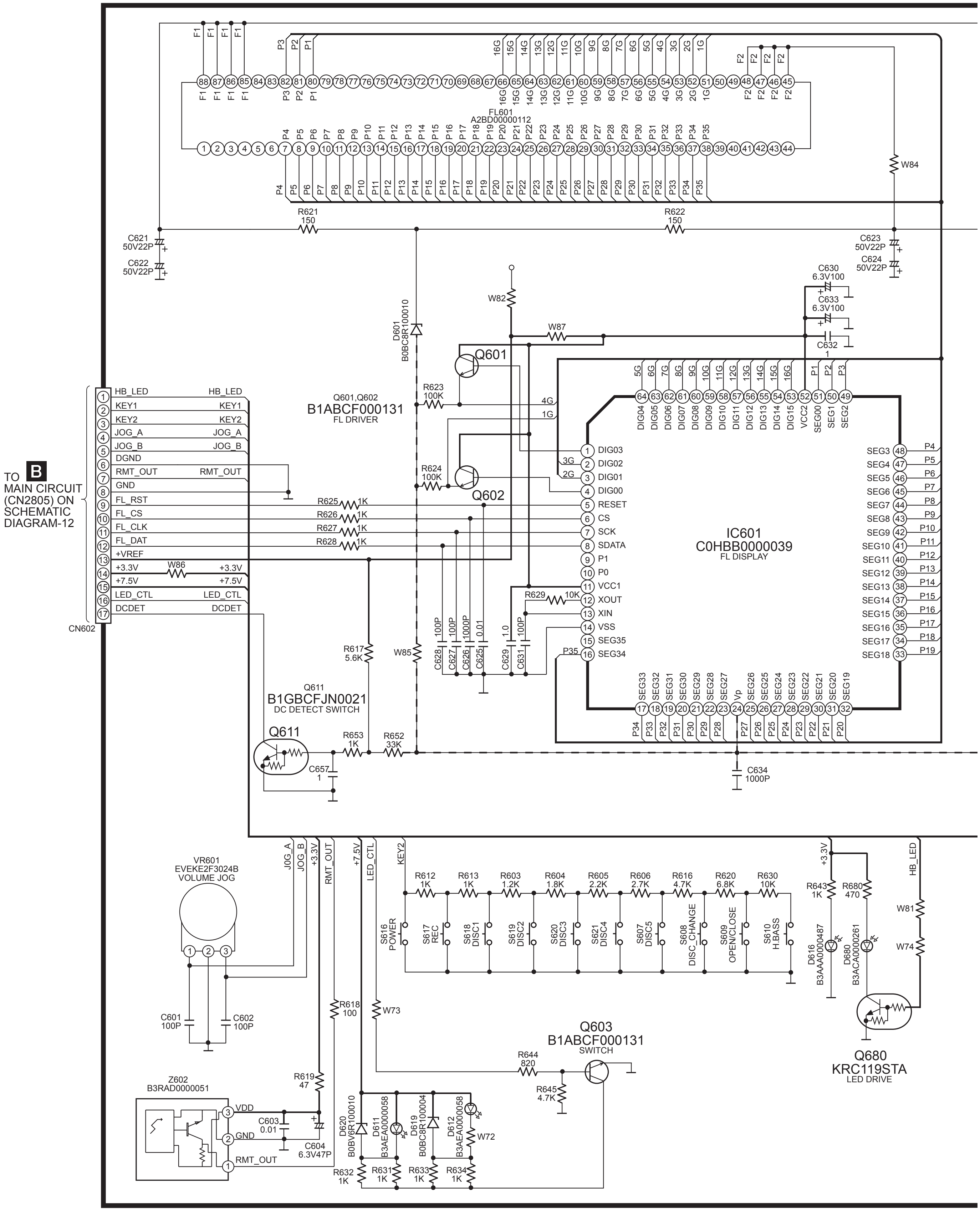
21.4. Panel Circuit, Component Video Circuit, Harmonic Bass Circuit & Switch Circuit

SCHEMATIC DIAGRAM - 14

C PANEL CIRCUIT

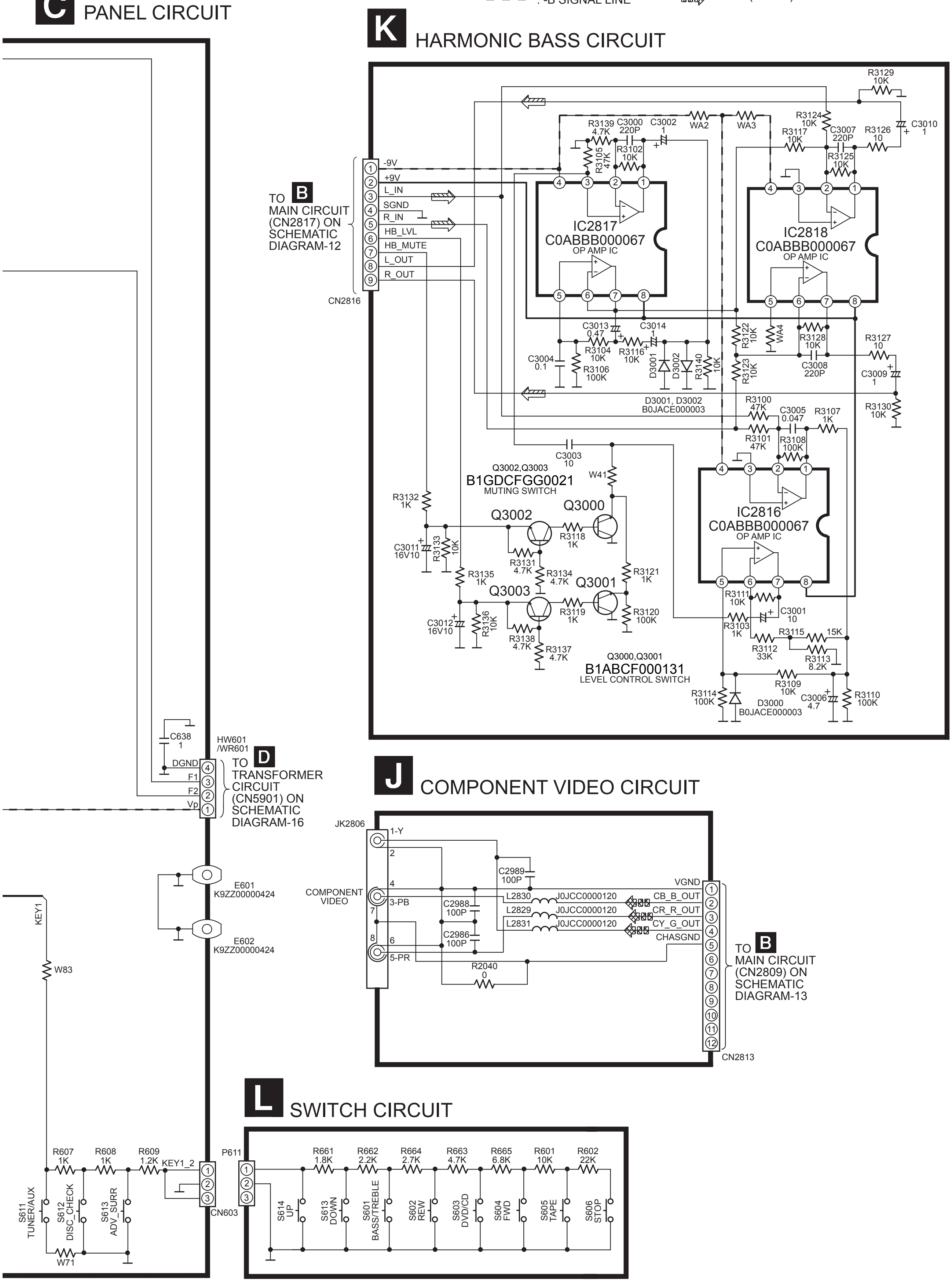
- - - : -B SIGNAL LINE

——— : +B SIGNAL LINE


FL601
A2BD00000112
W84
R621
150
R622
150
C621
50V22P
C622
50V22P
C623
50V22P
C624
50V22P
C630
6.3V100
C633
6.3V100
C632
1
W82
W87
D601
B0BC8R100010
Q601
Q601,Q602
B1ABCF000131
FL DRIVER
R623
100K
R624
100K
Q602
4G
1G
3G
2G
TO B MAIN CIRCUIT (CN2805) ON SCHEMATIC DIAGRAM-12
CN602
HB_LED
KEY1
KEY2
JOG_A
JOG_B
DGND
RMT_OUT
GND
FL_RST
FL_CS
FL_CLK
FL_DAT
+VREF
+3.3V
+7.5V
LED_CTL
DCDET
W86
R625 1K
R626 1K
R627 1K
R628 1K
IC601
C0HBB0000039
FL DISPLAY
DIG03
DIG02
DIG01
DIG00
RESET
CS
SCK
SDATA
P1
P0
VCC1
XOUT
XIN
VSS
SEG35
SEG34
R629 10K
P35
C628 100P
C627 100P
C626 1000P
C625 0.01
C629 1.0
C631 100P
R617
5.6K
W85
Q611
B1GBCFJN0021
DC DETECT SWITCH
R653
1K
R652
33K
C657
1
C634
1000P
VR601
EVEKE2F3024B
VOLUME JOG
C601
100P
C602
100P
Z602
B3RAD0000051
VDD
GND
RMT_OUT
C603
0.01
C604
6.3V47P
R619
47
R618
100
W73
KEY2
R612 1K
R613 1K
R603 1.2K
R604 1.8K
R605 2.2K
R606 2.7K
R616 4.7K
R620 6.8K
R630 10K
S616 POWER
S617 REC
S618 DISC1
S619 DISC2
S620 DISC3
S621 DISC4
S607 DISC5
S608 DISC_CHANGE
S609 OPEN/CLOSE
S610 H.BASS
R643
1K
R680
470
W81
W74
D616
B3AAA0000487
D680
B3ACA0000261
Q680
KRC119STA
LED DRIVE
Q603
B1ABCF000131
SWITCH
R644
820
R645
4.7K
D620
B0BV6R100010
D611
B3AEA0000058
D619
B0BC8R100004
D612
B3AEA0000058
W72
R632 1K
R631 1K
R633 1K
R634 1K

SCHEMATIC DIAGRAM - 15

—— : +B SIGNAL LINE
– – – : -B SIGNAL LINE
⇨ : MAIN SIGNAL LINE
▨ : DVD (VIDEO) SIGNAL LINE



C PANEL CIRCUIT

K HARMONIC BASS CIRCUIT

J COMPONENT VIDEO CIRCUIT

L SWITCH CIRCUIT

TO B MAIN CIRCUIT (CN2817) ON SCHEMATIC DIAGRAM-12
CN2816
-9V
+9V
L_IN
SGND
R_IN
HB_LVL
HB_MUTE
L_OUT
R_OUT
IC2817
C0ABBB000067
OP AMP IC
IC2818
C0ABBB000067
OP AMP IC
IC2816
C0ABBB000067
OP AMP IC
R3129 10K
R3124 10K
R3117 10K
C3007 220P
R3126 10
C3010 1
R3125 10K
R3139 4.7K
C3000 220P
C3002 1
WA2
WA3
R3105 47K
R3102 10K
C3013 0.47
C3014 1
R3104 10K
R3116 10K
C3004 0.1
R3106 100K
D3001
D3002
R3140 10K
D3001, D3002
B0JACE000003
R3122 10K
WA4
R3128 10K
R3127 10
R3123 10K
C3008 220P
C3009 1
R3130 10K
R3100 47K
C3005 0.047
R3107 1K
R3101 47K
R3108 100K
C3003 10
Q3002,Q3003
B1GDCFGG0021
MUTING SWITCH
W41
Q3000
Q3002
R3132 1K
R3118 1K
C3011 16V10
R3133 10K
R3131 4.7K
R3134 4.7K
R3135 1K
R3121 1K
Q3003
Q3001
C3012 16V10
R3136 10K
R3119 1K
R3120 100K
R3138 4.7K
R3137 4.7K
Q3000,Q3001
B1ABCF000131
LEVEL CONTROL SWITCH
R3111 10K
C3001 10
R3103 1K
R3115 15K
R3112 33K
R3113 8.2K
R3109 10K
R3114 100K
D3000
B0JACE000003
C3006 4.7
R3110 100K
C638 1
HW601 /WR601
DGND
F1
F2
Vp
TO D TRANSFORMER CIRCUIT (CN5901) ON SCHEMATIC DIAGRAM-16
E601
K9ZZ00000424
E602
K9ZZ00000424
KEY1
W83
JK2806
1-Y
2
4
3-PB
7
8
6
5-PR
COMPONENT VIDEO
C2989 100P
C2988 100P
C2986 100P
L2830
L2829
L2831
J0JCC0000120
J0JCC0000120
J0JCC0000120
R2040 0
VGND
CB_B_OUT
CR_R_OUT
CY_G_OUT
CHASGND
CN2813
TO B MAIN CIRCUIT (CN2809) ON SCHEMATIC DIAGRAM-13
R607 1K
R608 1K
R609 1.2K
KEY1_2
CN603
S611 TUNER/AUX
S612 DISC_CHECK
S613 ADV_SURR
W71
P611
R661 1.8K
R662 2.2K
R664 2.7K
R663 4.7K
R665 6.8K
R601 10K
R602 22K
S614 UP
S613 DOWN
S601 BASS/TREBLE
S602 REW
S603 DVD/CD
S604 FWD
S605 TAPE
S606 STOP

21.5. Transformer Circuit & Speaker Circuit

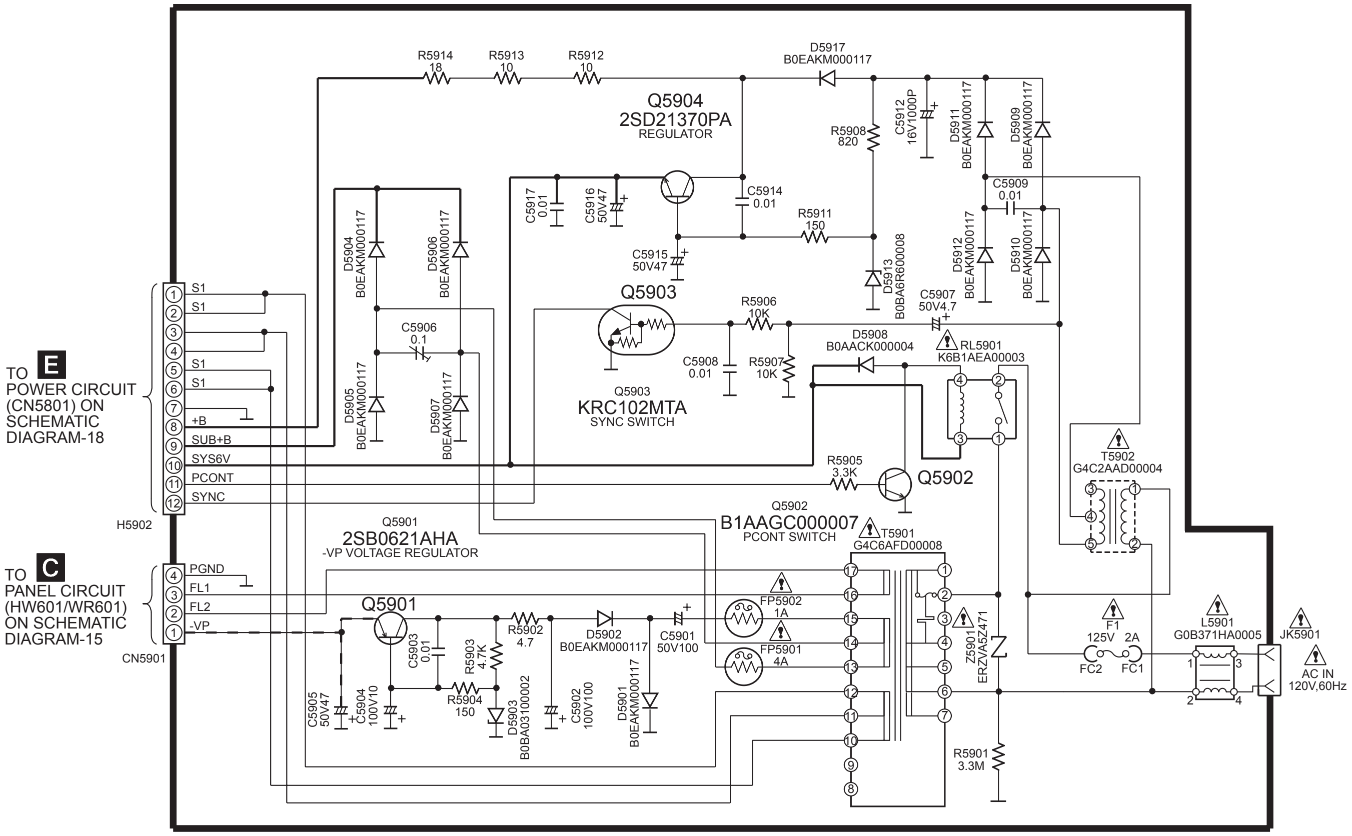
SCHEMATIC DIAGRAM-16

- - - : -B SIGNAL LINE

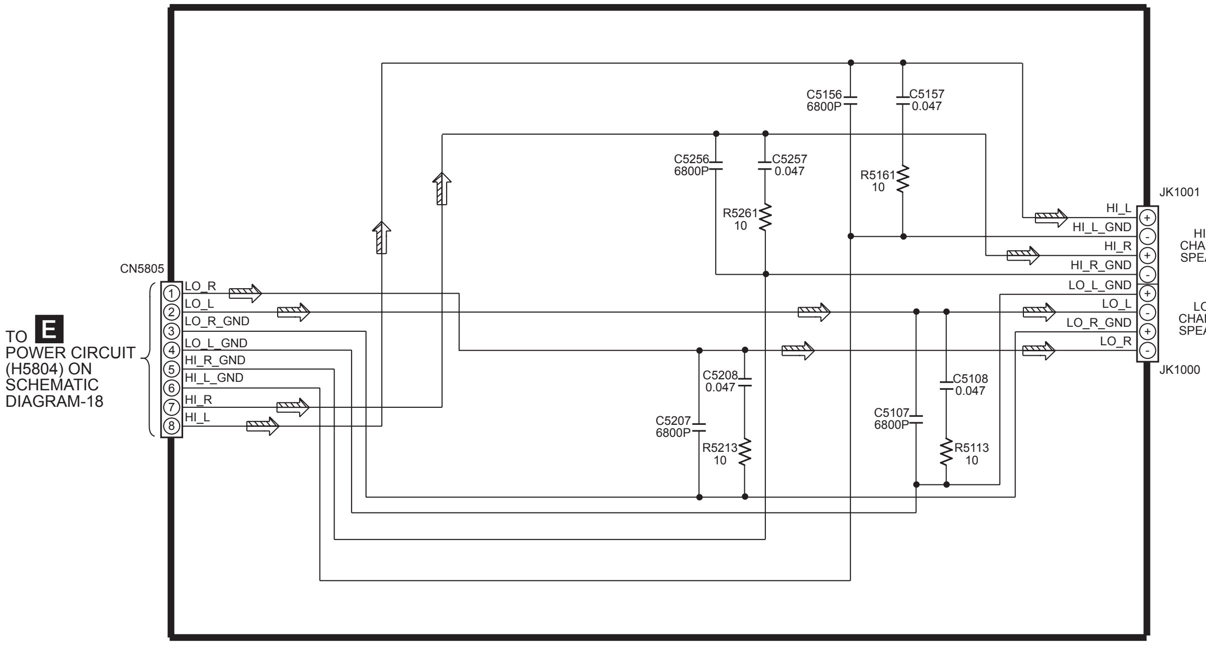
—— : +B SIGNAL LINE

⇨ : MAIN SIGNAL LINE

D TRANSFORMER CIRCUIT


TO E POWER CIRCUIT (CN5801) ON SCHEMATIC DIAGRAM-18
H5902
1 S1
2 S1
3
4
5 S1
6 S1
7
8 +B
9 SUB+B
10 SYS6V
11 PCONT
12 SYNC
TO C PANEL CIRCUIT (HW601/WR601) ON SCHEMATIC DIAGRAM-15
CN5901
4 PGND
3 FL1
2 FL2
1 -VP
R5914 18
R5913 10
R5912 10
D5917 B0EAKM000117
Q5904 2SD21370PA REGULATOR
R5908 820
C5912 16V1000P
D5911 B0EAKM000117
D5909 B0EAKM000117
C5909 0.01
D5912 B0EAKM000117
D5910 B0EAKM000117
C5914 0.01
R5911 150
D5913 B0BA6R600008
C5917 0.01
C5916 50V47
C5915 50V47
D5904 B0EAKM000117
D5906 B0EAKM000117
C5906 0.1
D5905 B0EAKM000117
D5907 B0EAKM000117
Q5903
Q5903 KRC102MTA SYNC SWITCH
R5906 10K
C5908 0.01
R5907 10K
C5907 50V4.7
D5908 B0AACK000004
RL5901 K6B1AEA00003
R5905 3.3K
Q5902
Q5902 B1AAGC000007 PCONT SWITCH
T5902 G4C2AAD00004
T5901 G4C6AFD00008
Q5901 2SB0621AHA -VP VOLTAGE REGULATOR
Q5901
R5902 4.7
D5902 B0EAKM000117
C5901 50V100
FP5902 1A
FP5901 4A
C5903 0.01
R5903 4.7K
R5904 150
D5903 B0BA03100002
C5902 100V100
D5901 B0EAKM000117
C5905 50V47
C5904 100V10
Z5901 ERZVA5Z471
R5901 3.3M
F1 125V 2A
FC2 FC1
L5901 G0B371HA0005
JK5901
AC IN 120V,60Hz

M SPEAKER CIRCUIT


CN5805
TO E POWER CIRCUIT (H5804) ON SCHEMATIC DIAGRAM-18
1 LO_R
2 LO_L
3 LO_R_GND
4 LO_L_GND
5 HI_R_GND
6 HI_L_GND
7 HI_R
8 HI_L
C5156 6800P
C5157 0.047
C5256 6800P
C5257 0.047
R5161 10
R5261 10
C5208 0.047
C5207 6800P
R5213 10
C5108 0.047
C5107 6800P
R5113 10
JK1001
HI_L
HI_L_GND
HI_R
HI_R_GND
HIGH CHANNEL SPEAKER
LO_L_GND
LO_L
LO_R_GND
LO_R
LOW CHANNEL SPEAKER
JK1000

21.6. Power Circuit

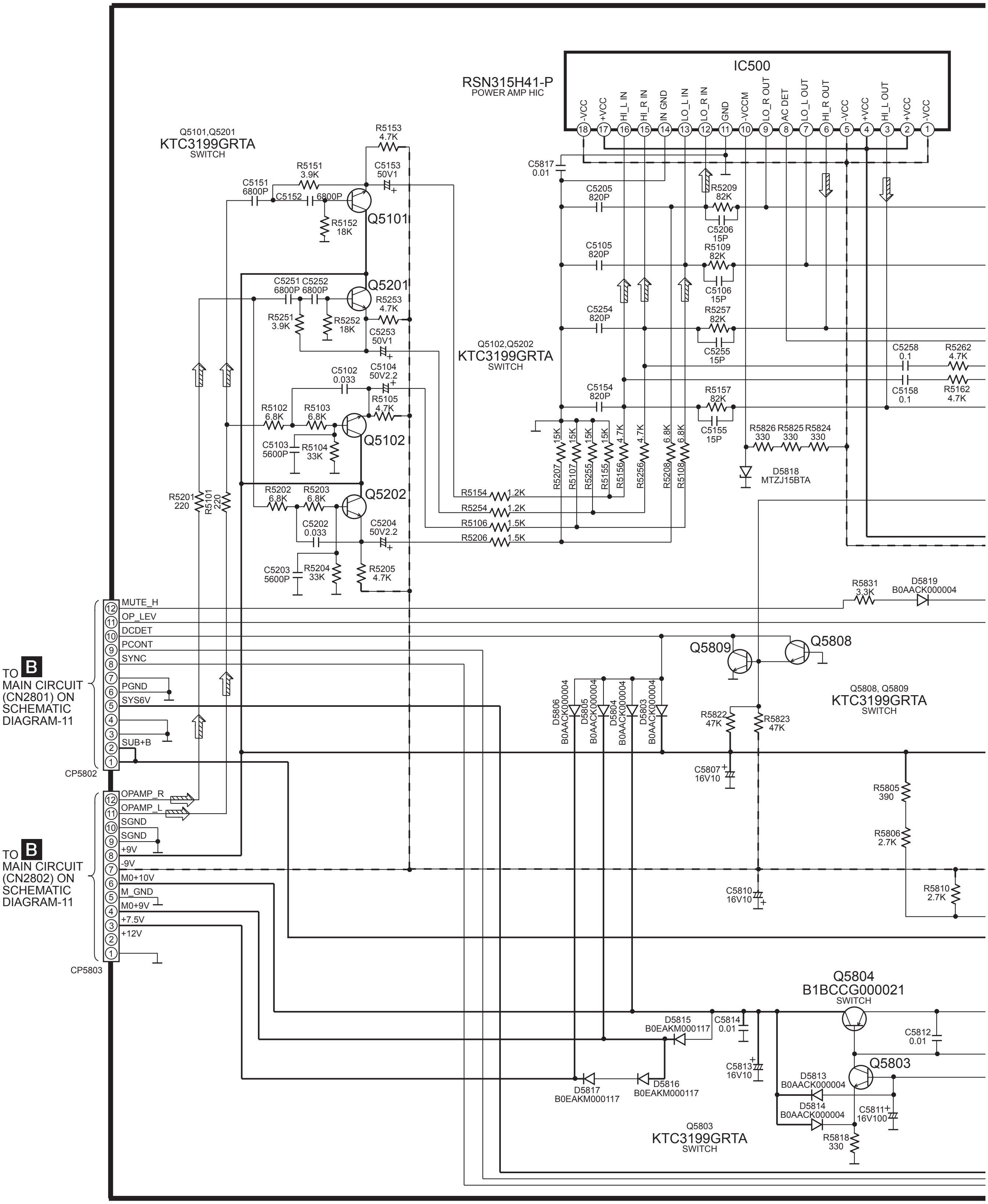
SCHEMATIC DIAGRAM-17

E POWER CIRCUIT

- - - : -B SIGNAL LINE

——— : +B SIGNAL LINE

⇨ : MAIN SIGNAL LINE


IC500
RSN315H41-P
POWER AMP HIC
-VCC
+VCC
HI_L IN
HI_R IN
IN GND
LO_L IN
LO_R IN
GND
-VCCM
LO_R OUT
AC DET
LO_L OUT
HI_R OUT
-VCC
+VCC
HI_L OUT
+VCC
-VCC
Q5101,Q5201
KTC3199GRTA
SWITCH
Q5102,Q5202
KTC3199GRTA
SWITCH
Q5101
Q5201
Q5102
Q5202
R5153 4.7K
R5151 3.9K
C5153 50V1
C5151 6800P
C5152 6800P
R5152 18K
C5251 6800P
C5252 6800P
R5253 4.7K
R5251 3.9K
R5252 18K
C5253 50V1
C5102 0.033
C5104 50V2.2
R5105 4.7K
R5102 6.8K
R5103 6.8K
C5103 5600P
R5104 33K
R5202 6.8K
R5203 6.8K
C5202 0.033
C5204 50V2.2
C5203 5600P
R5204 33K
R5205 4.7K
R5201 220
R5101 220
C5817 0.01
C5205 820P
R5209 82K
C5206 15P
C5105 820P
R5109 82K
C5106 15P
C5254 820P
R5257 82K
C5255 15P
C5154 820P
R5157 82K
C5155 15P
C5258 0.1
R5262 4.7K
C5158 0.1
R5162 4.7K
R5207 15K
R5107 15K
R5255 15K
R5155 15K
R5156 4.7K
R5256 4.7K
R5208 6.8K
R5108 6.8K
R5826 330
R5825 330
R5824 330
D5818
MTZJ15BTA
R5154 1.2K
R5254 1.2K
R5106 1.5K
R5206 1.5K
R5831 3.3K
D5819
B0AACK000004
Q5809
Q5808
Q5808, Q5809
KTC3199GRTA
SWITCH
D5806 B0AACK000004
D5805 B0AACK000004
D5804 B0AACK000004
D5803 B0AACK000004
R5822 47K
R5823 47K
C5807 16V10
R5805 390
R5806 2.7K
C5810 16V10
R5810 2.7K
MUTE_H
OP_LEV
DCDET
PCONT
SYNC
PGND
SYS6V
SUB+B
CP5802
TO B MAIN CIRCUIT (CN2801) ON SCHEMATIC DIAGRAM-11
OPAMP_R
OPAMP_L
SGND
SGND
+9V
-9V
M0+10V
M_GND
M0+9V
+7.5V
+12V
CP5803
TO B MAIN CIRCUIT (CN2802) ON SCHEMATIC DIAGRAM-11
Q5804
B1BCCG000021
SWITCH
D5815 B0EAKM000117
C5814 0.01
C5812 0.01
C5813 16V10
Q5803
D5813 B0AACK000004
D5814 B0AACK000004
C5811 16V100
R5818 330
D5817 B0EAKM000117
D5816 B0EAKM000117
Q5803
KTC3199GRTA
SWITCH

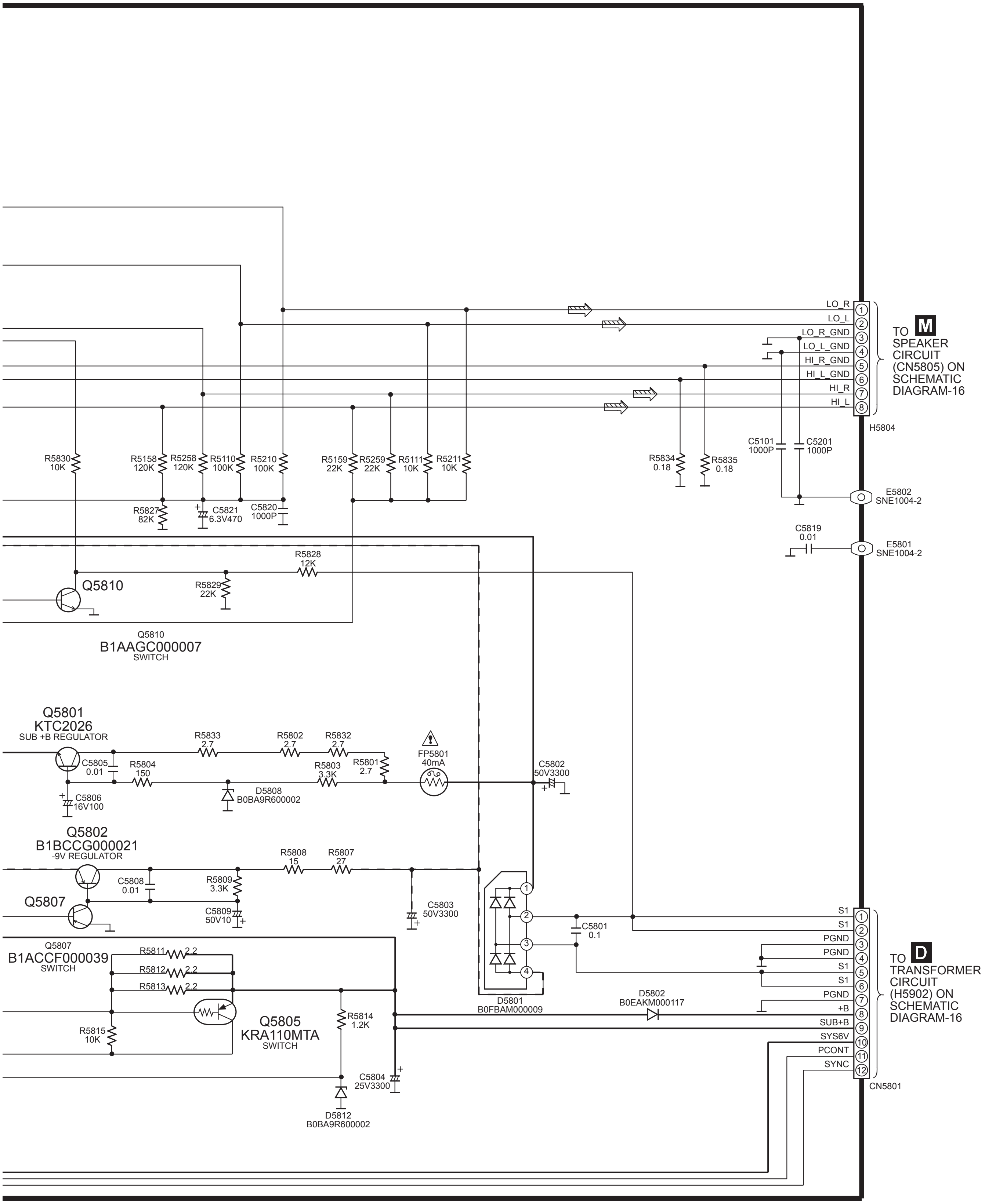
SCHEMATIC DIAGRAM-18

E POWER CIRCUIT

- - - : -B SIGNAL LINE

—— : +B SIGNAL LINE

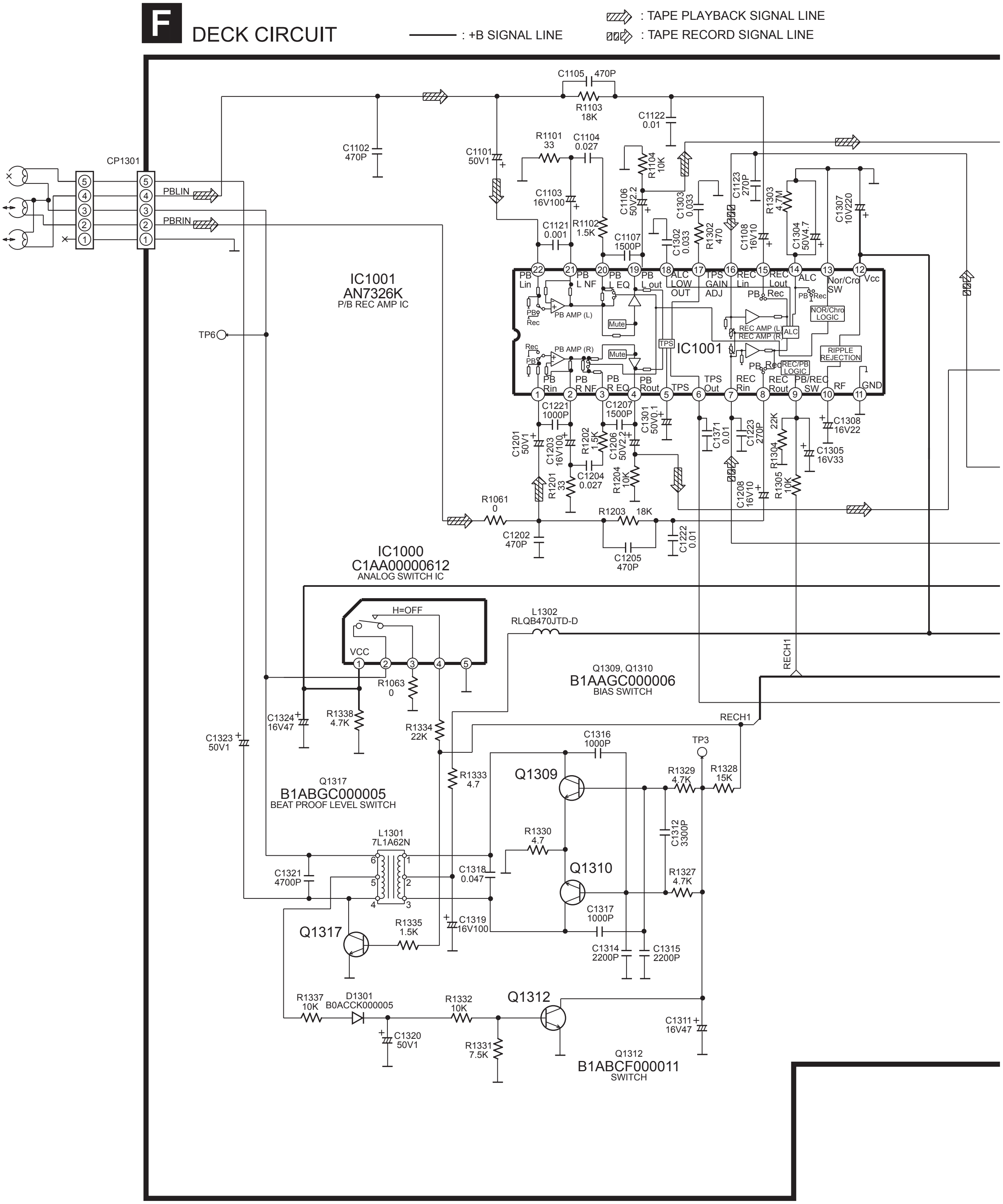
⇨ : MAIN SIGNAL LINE


LO_R
LO_L
LO_R_GND
LO_L_GND
HI_R_GND
HI_L_GND
HI_R
HI_L
1
2
3
4
5
6
7
8
H5804
TO M SPEAKER CIRCUIT (CN5805) ON SCHEMATIC DIAGRAM-16
C5101 1000P
C5201 1000P
R5834 0.18
R5835 0.18
E5802 SNE1004-2
C5819 0.01
E5801 SNE1004-2
R5830 10K
R5158 120K
R5258 120K
R5110 100K
R5210 100K
R5159 22K
R5259 22K
R5111 10K
R5211 10K
R5827 82K
C5821 6.3V470
C5820 1000P
R5828 12K
R5829 22K
Q5810
Q5810
B1AAGC000007
SWITCH
Q5801
KTC2026
SUB +B REGULATOR
C5805 0.01
C5806 16V100
R5804 150
R5833 2.7
R5802 2.7
R5832 2.7
R5803 3.3K
R5801 2.7
D5808 B0BA9R600002
FP5801 40mA
C5802 50V3300
Q5802
B1BCCG000021
-9V REGULATOR
C5808 0.01
R5809 3.3K
C5809 50V10
R5808 15
R5807 27
C5803 50V3300
Q5807
Q5807
B1ACCF000039
SWITCH
R5811 2.2
R5812 2.2
R5813 2.2
R5815 10K
Q5805
KRA110MTA
SWITCH
R5814 1.2K
C5804 25V3300
D5812 B0BA9R600002
D5801 B0FBAM000009
C5801 0.1
D5802 B0EAKM000117
S1
S1
PGND
PGND
S1
S1
PGND
+B
SUB+B
SYS6V
PCONT
SYNC
9
10
11
12
CN5801
TO D TRANSFORMER CIRCUIT (H5902) ON SCHEMATIC DIAGRAM-16

21.7. Deck Circuit, Tape Eject Circuit & Deck Mechanism Circuit

SCHEMATIC DIAGRAM-19

F DECK CIRCUIT



: TAPE PLAYBACK SIGNAL LINE
: +B SIGNAL LINE
: TAPE RECORD SIGNAL LINE
CP1301
PBLIN
PBRIN
TP6
C1102 470P
C1105 470P
R1103 18K
C1122 0.01
R1101 33
C1104 0.027
C1101 50V1
R1104 10K
C1103 16V100
C1106 50V2.2
C1303 0.033
C1123 270P
R1303 4.7M
C1307 10V220
C1121 0.001
R1102 1.5K
C1107 1500P
C1302 0.033
R1302 470
C1108 16V10
C1304 50V4.7
IC1001
AN7326K
P/B REC AMP IC
PB Lin
PB L NF
PB L EQ
PB L out
ALC LOW OUT
TPS GAIN ADJ
REC Lin
REC Lout
ALC
Nor/Cro SW
Vcc
PB AMP (L)
PB AMP (R)
Mute
TPS
REC AMP (L)
REC AMP (R)
NOR/Chro LOGIC
RIPPLE REJECTION
REC/PB LOGIC
PB Rin
PB R NF
PB R EQ
PB Rout
TPS Out
REC Rin
REC Rout
PB/REC SW
RF
GND
C1221 1000P
C1207 1500P
C1301 50V0.1
C1371 0.01
C1223 270P
R1304 22K
C1308 16V22
C1305 16V33
C1201 50V1
C1203 16V100
R1202 1.5K
C1206 50V2.2
R1201 33
C1204 0.027
R1204 10K
C1208 16V10
R1305 10K
R1061 0
R1203 18K
C1202 470P
C1205 470P
C1222 0.01
IC1000
C1AA00000612
ANALOG SWITCH IC
H=OFF
VCC
L1302
RLQB470JTD-D
R1063 0
Q1309, Q1310
B1AAGC000006
BIAS SWITCH
RECH1
C1324 16V47
R1338 4.7K
R1334 22K
C1323 50V1
C1316 1000P
TP3
R1333 4.7
Q1309
R1329 4.7K
R1328 15K
Q1317
B1ABGC000005
BEAT PROOF LEVEL SWITCH
C1312 3300P
L1301
7L1A62N
R1330 4.7
C1321 4700P
C1318 0.047
Q1310
R1327 4.7K
C1317 1000P
R1335 1.5K
C1319 16V100
C1314 2200P
C1315 2200P
R1337 10K
D1301
B0ACCK000005
R1332 10K
Q1312
C1311 16V47
C1320 50V1
R1331 7.5K
Q1312
B1ABCF000011
SWITCH

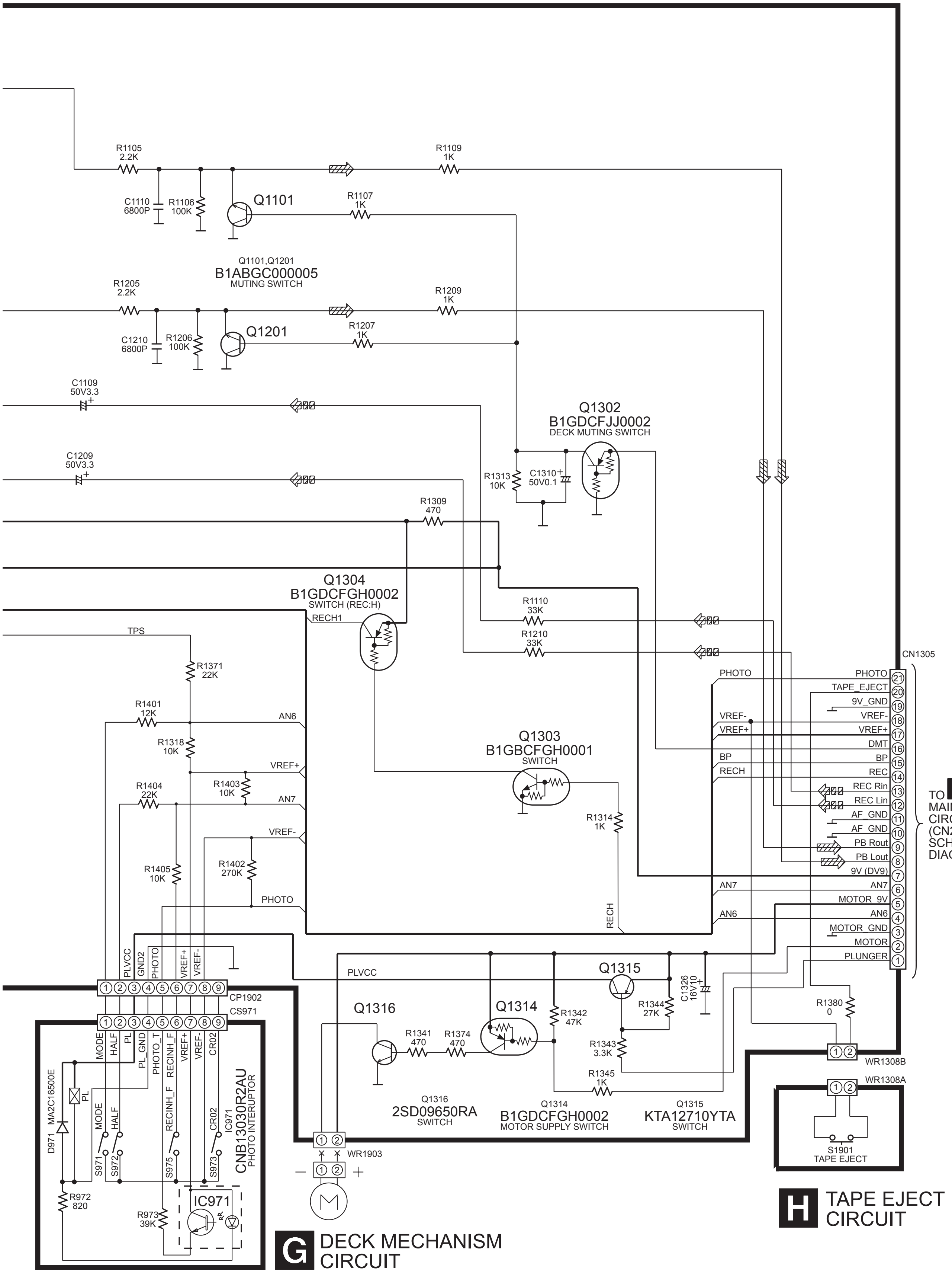
SCHEMATIC DIAGRAM-20

F DECK CIRCUIT

——— : +B SIGNAL LINE

▨ : TAPE PLAYBACK SIGNAL LINE

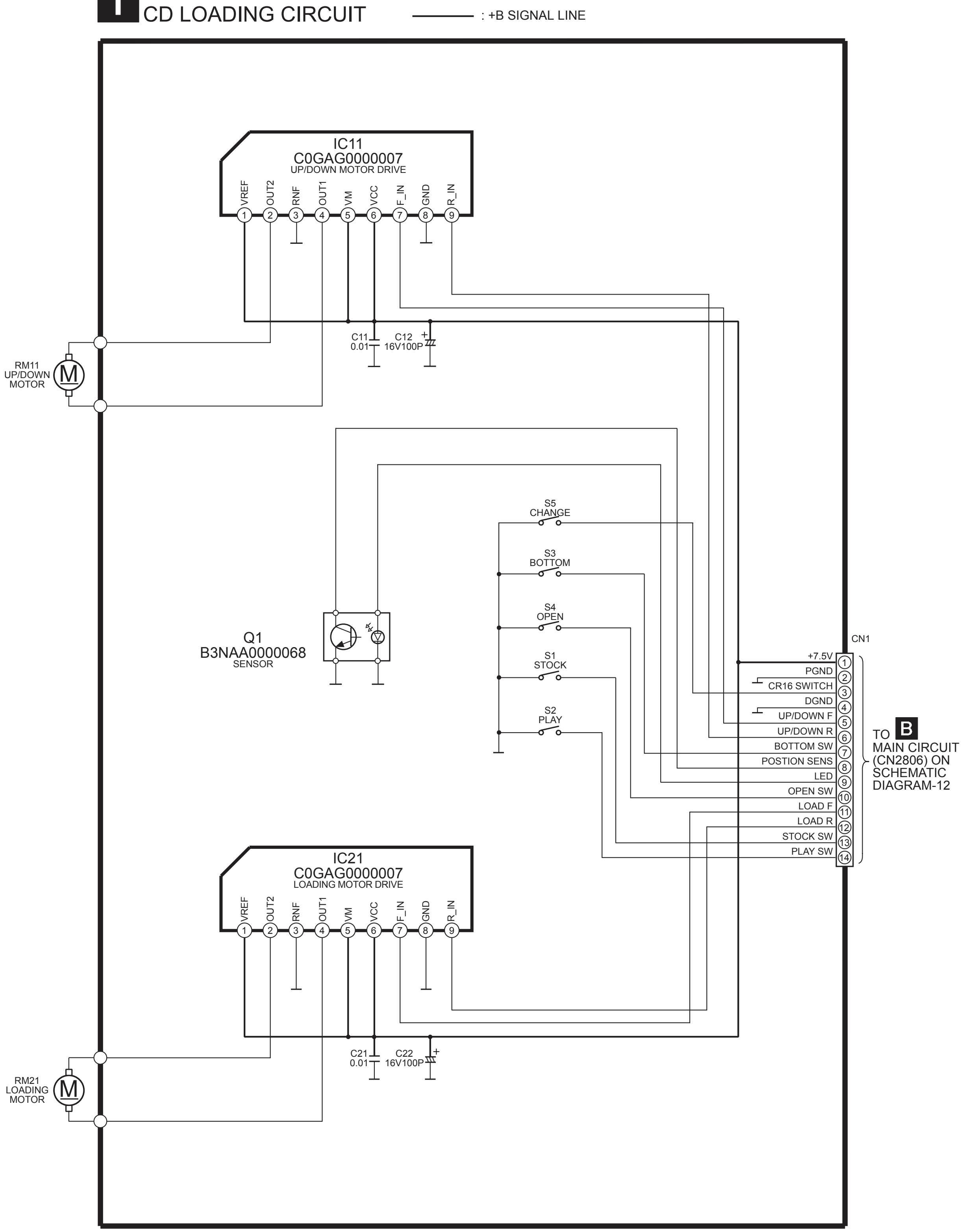
▨ : TAPE RECORD SIGNAL LINE


R1105 2.2K
C1110 6800P
R1106 100K
Q1101
R1107 1K
R1109 1K
Q1101,Q1201
B1ABGC000005
MUTING SWITCH
R1205 2.2K
C1210 6800P
R1206 100K
Q1201
R1207 1K
R1209 1K
C1109 50V3.3
C1209 50V3.3
Q1302
B1GDCFJJ0002
DECK MUTING SWITCH
R1313 10K
C1310 50V0.1
R1309 470
Q1304
B1GDCFGH0002
SWITCH (REC:H)
RECH1
R1110 33K
R1210 33K
TPS
R1371 22K
R1401 12K
AN6
R1318 10K
VREF+
R1404 22K
R1403 10K
AN7
VREF-
R1405 10K
R1402 270K
PHOTO
Q1303
B1GBCFGH0001
SWITCH
R1314 1K
RECH
CN1305
PHOTO
TAPE_EJECT
9V_GND
VREF-
VREF+
DMT
BP
REC
REC Rin
REC Lin
AF_GND
AF_GND
PB Rout
PB Lout
9V (DV9)
AN7
MOTOR_9V
AN6
MOTOR_GND
MOTOR
PLUNGER
TO B MAIN CIRCUIT (CN2807) ON SCHEMATIC DIAGRAM-13
PLVCC GND2 PHOTO VREF+ VREF-
CP1902
CS971
MODE HALF PL PL_GND PHOTO_T RECINH_F VREF+ VREF- CR02
PLVCC
Q1315
C1326 16V10
R1344 27K
Q1316
Q1314
R1342 47K
R1341 470
R1374 470
R1343 3.3K
R1345 1K
R1380 0
WR1308B
WR1308A
Q1316
2SD09650RA
SWITCH
Q1314
B1GDCFGH0002
MOTOR SUPPLY SWITCH
Q1315
KTA12710YTA
SWITCH
WR1903
M
S1901
TAPE EJECT
H TAPE EJECT CIRCUIT
D971 MA2C16500E
PL
MODE HALF
S971 S972
RECINH_F
S975
CR02
S973
IC971
CNB13030R2AU
PHOTO INTERUPTOR
R972 820
R973 39K
IC971
G DECK MECHANISM CIRCUIT

21.8. CD Loading Circuit

SCHEMATIC DIAGRAM-21

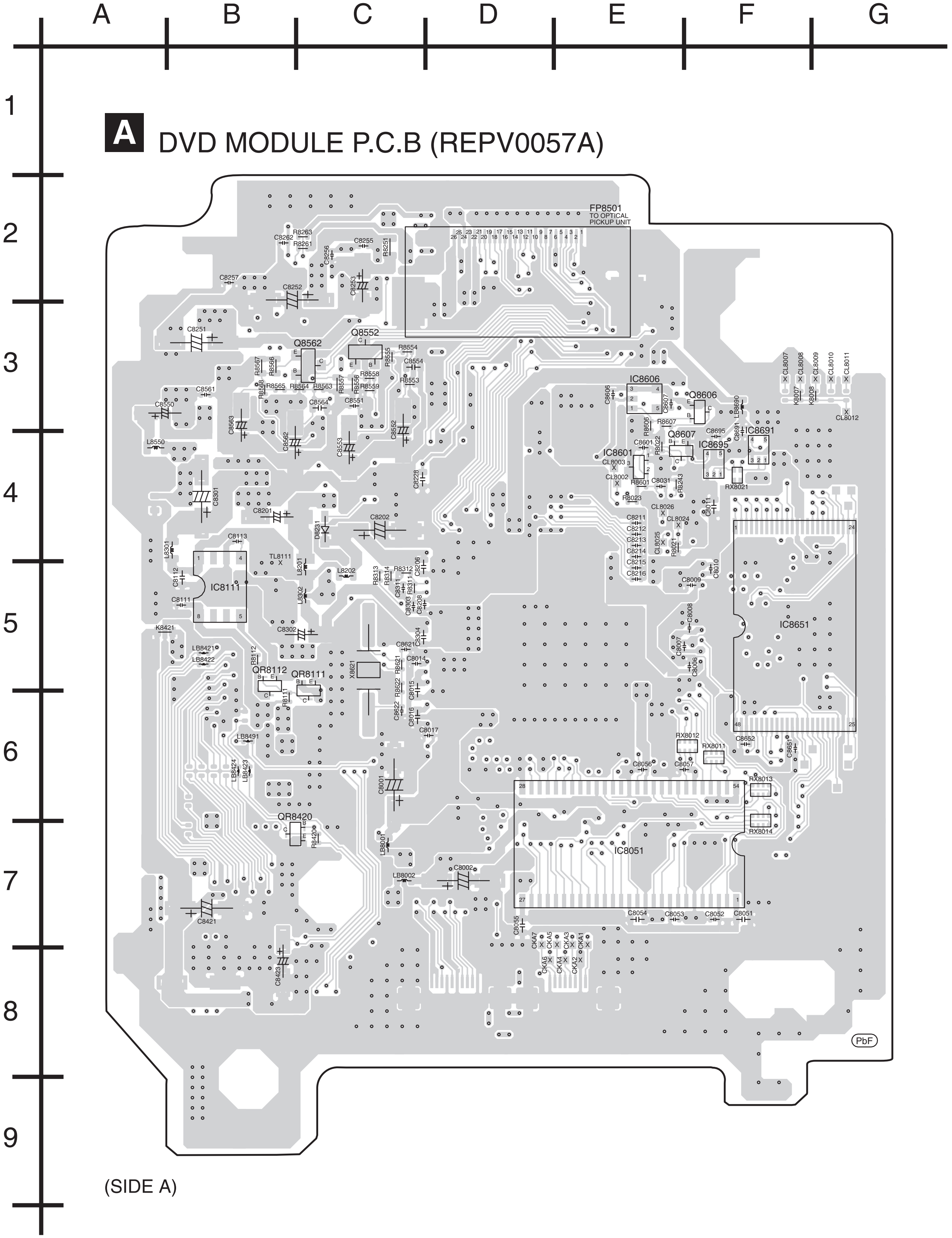
I CD LOADING CIRCUIT



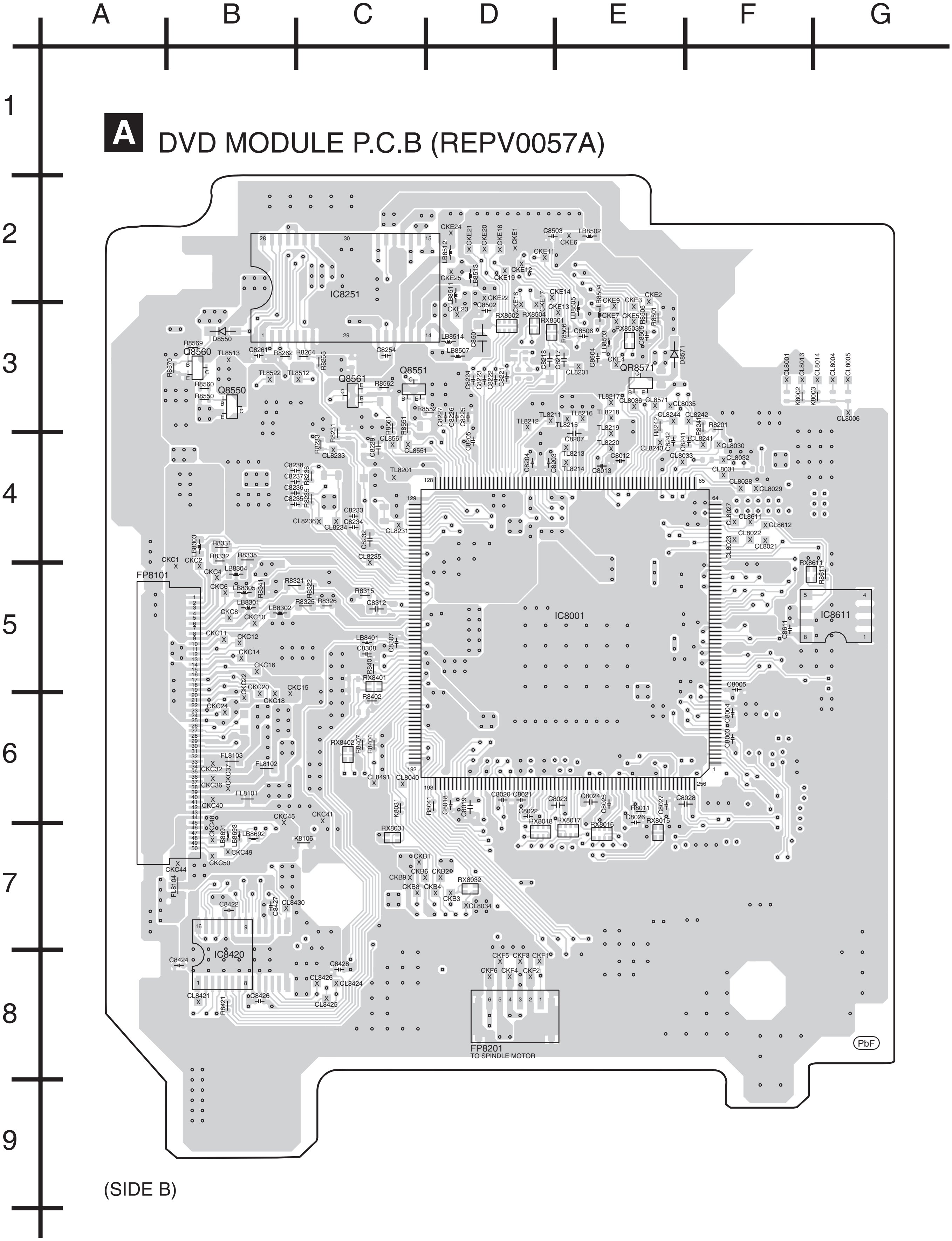
: +B SIGNAL LINE
IC11
C0GAG0000007
UP/DOWN MOTOR DRIVE
VREF
OUT2
RNF
OUT1
VM
VCC
F_IN
GND
R_IN
C11
0.01
C12
16V100P
RM11
UP/DOWN
MOTOR
M
Q1
B3NAA0000068
SENSOR
S5
CHANGE
S3
BOTTOM
S4
OPEN
S1
STOCK
S2
PLAY
CN1
+7.5V
PGND
CR16 SWITCH
DGND
UP/DOWN F
UP/DOWN R
BOTTOM SW
POSTION SENS
LED
OPEN SW
LOAD F
LOAD R
STOCK SW
PLAY SW
TO B
MAIN CIRCUIT
(CN2806) ON
SCHEMATIC
DIAGRAM-12
IC21
C0GAG0000007
LOADING MOTOR DRIVE
C21
0.01
C22
16V100P
RM21
LOADING
MOTOR
M

22 Printed Circuit Board

22.1. DVD Module P.C.B. (Side: A & B)

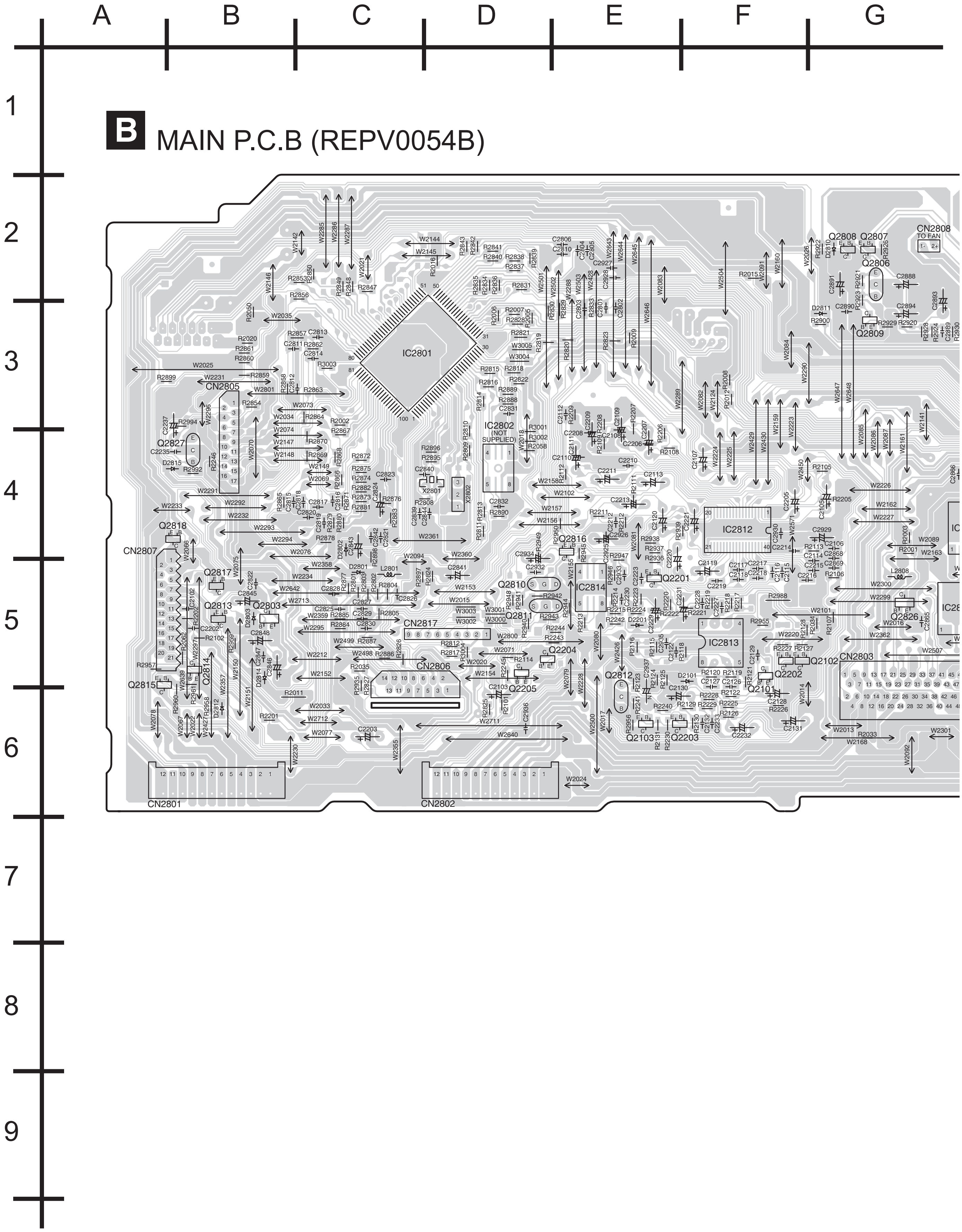

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
A
DVD MODULE P.C.B (REPV0057A)
FP8501
TO OPTICAL PICKUP UNIT
C8262
R8263
R8261
C8255
R8251
C8256
C8253
C8257
C8252
C8251
Q8562
Q8552
R8554
C8554
R8553
R8555
R8558
R8559
R8567
R8566
R8568
R8565
R8564
R8563
R8557
R8556
C8561
C8564
C8551
C8550
C8563
C8562
C8553
C8552
L8550
C8301
C8228
C8201
C8202
D8231
C8113
TL8111
L8301
L8201
L8202
L8302
C8112
C8111
IC8111
R8313
R8314
R8312
C8206
C8311
R8311
C8303
C8208
C8302
C8304
K8421
LB8421
LB8422
R8112
QR8112
QR8111
R8111
X8621
C8621
C8014
R8621
R8622
C8015
C8622
C8016
C8017
LB8491
LB8424
LB8423
C8001
QR8420
R8420
LB8001
LB8002
C8002
C8421
C8423
IC8606
C8606
C8607
Q8606
R8606
R8607
Q8607
C8695
C8691
LB8690
IC8691
IC8695
IC8601
C8601
R8022
CL8003
CL8002
R8601
C8031
R8243
RX8021
R8023
CL8026
CL8024
C8011
C8211
C8212
C8213
C8214
C8215
C8216
CL8025
R8021
C8009
C8010
C8008
C8007
C8006
IC8651
RX8012
RX8011
C8652
C8651
C8056
C8057
RX8013
RX8014
IC8051
C8054
C8053
C8052
C8051
C8055
CKA7
CKA6
CKA5
CKA4
CKA3
CKA2
CKA1
CL8007
CL8008
CL8009
CL8010
CL8011
K8007
K8008
CL8012
PbF
(SIDE A)

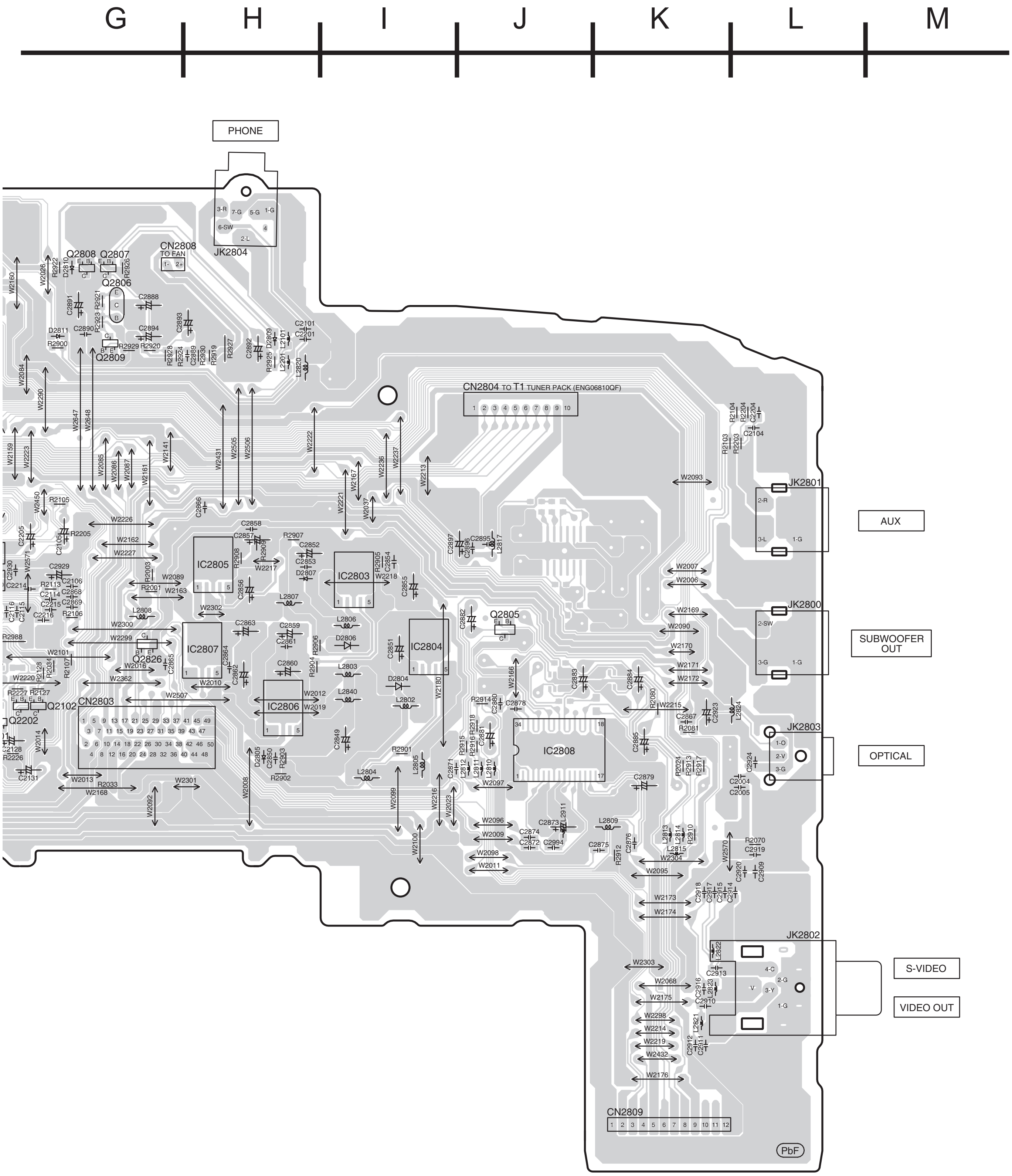
A DVD MODULE P.C.B (REPV0057A)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
IC8251
IC8001
IC8611
IC8420
Q8560
Q8550
Q8561
Q8551
QR8571
D8550
D8571
FP8101
FP8201
TO SPINDLE MOTOR
PbF

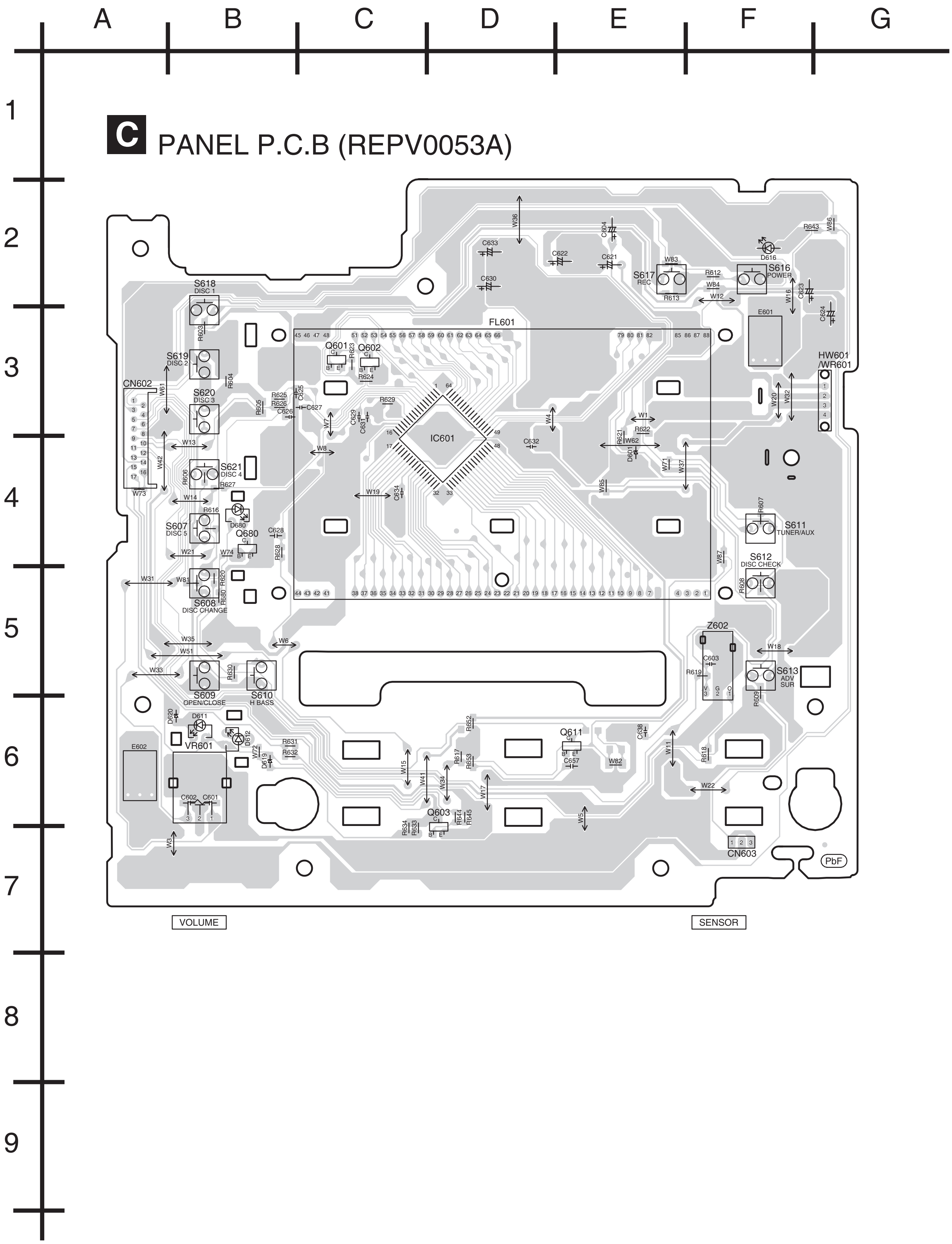
(SIDE B)

22.2. Main P.C.B.

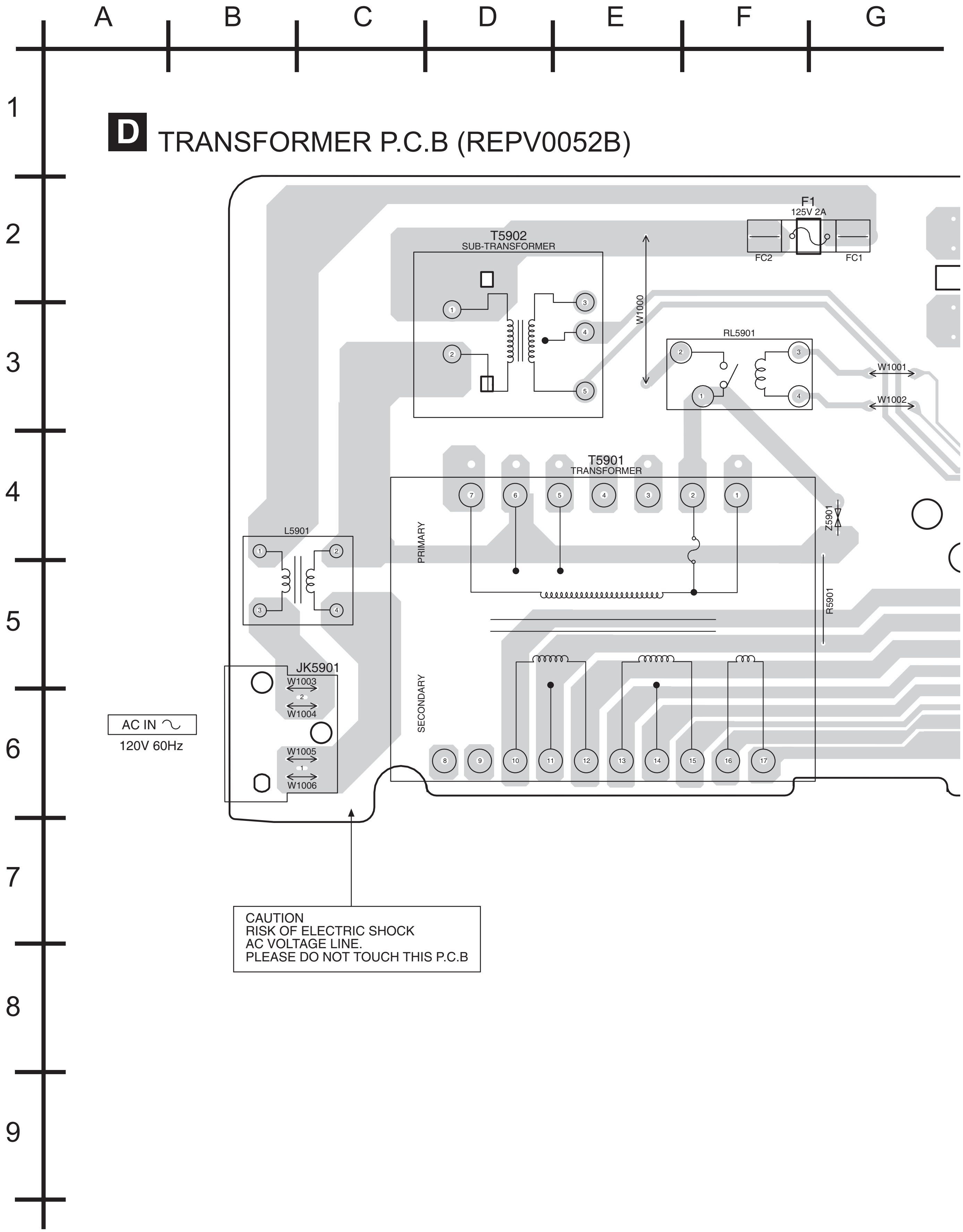

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
B MAIN P.C.B (REPV0054B)
IC2801
IC2802 (NOT SUPPLIED)
IC2812
IC2813
IC2814
CN2801
CN2802
CN2803
CN2805
CN2806
CN2807
CN2808 TO FAN
CN2817
X2801
X2802
L2801
L2808


G
H
I
J
K
L
M
PHONE
JK2804
3-R
7-G
5-G
1-G
6-SW
4
2-L
CN2808
TO FAN
Q2808
Q2807
Q2806
Q2809
CN2804 TO T1 TUNER PACK (ENG06810QF)
JK2801
2-R
3-L
1-G
AUX
JK2800
2-SW
3-G
1-G
SUBWOOFER OUT
JK2803
1-O
2-V
3-G
OPTICAL
JK2802
4-C
2-G
3-Y
1-G
S-VIDEO
VIDEO OUT
IC2805
IC2803
IC2807
IC2804
IC2806
IC2808
Q2805
Q2826
Q2102
Q2202
CN2803
CN2809
PbF

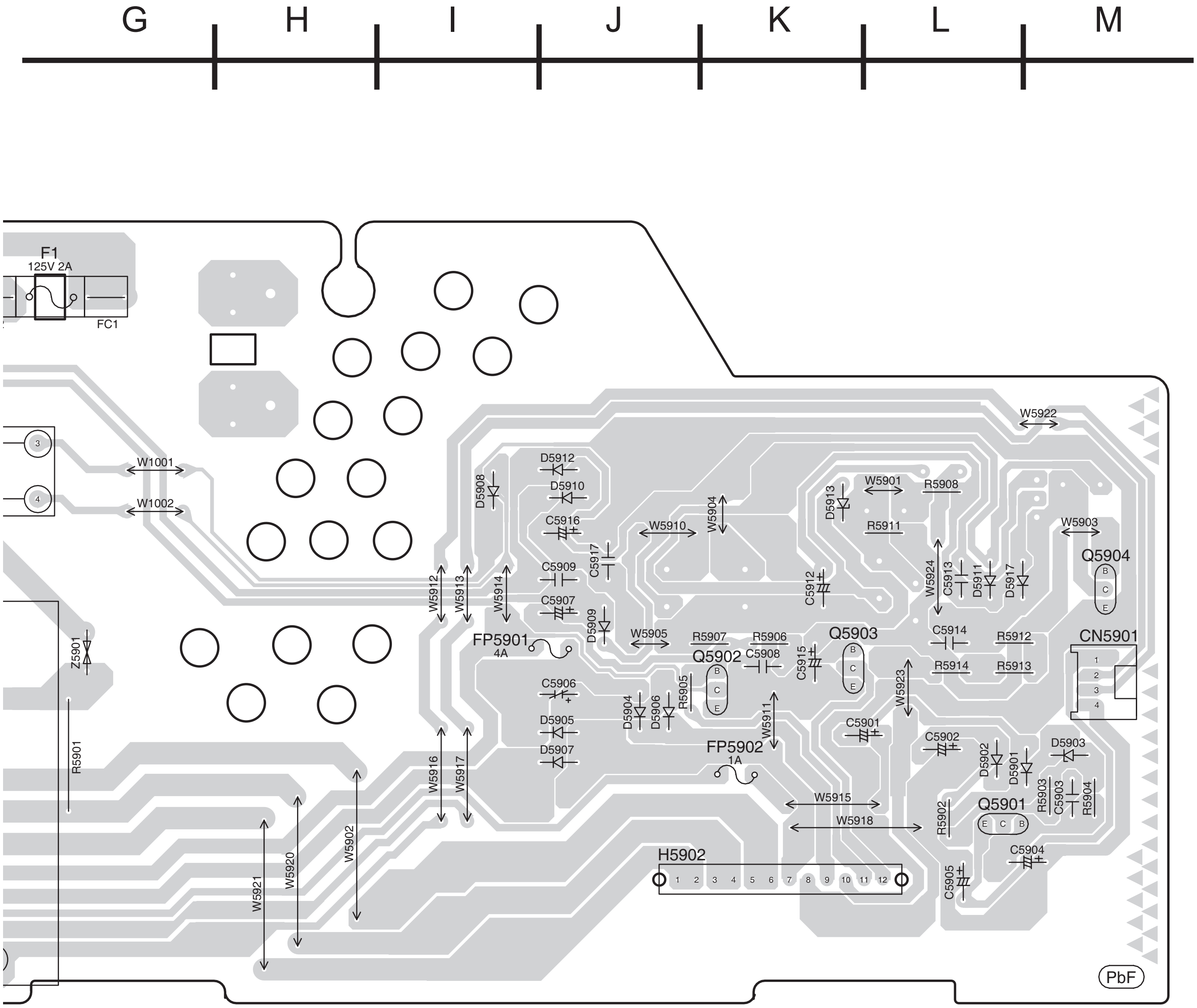
22.3. Panel P.C.B.


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
C
PANEL P.C.B (REPV0053A)
FL601
IC601
CN602
CN603
HW601
/WR601
S618
DISC 1
S619
DISC 2
S620
DISC 3
S621
DISC 4
S607
DISC 5
S608
DISC CHANGE
S609
OPEN/CLOSE
S610
H BASS
S611
TUNER/AUX
S612
DISC CHECK
S613
ADV
SUR
S616
POWER
S617
REC
Z602
VR601
E601
E602
Q601
Q602
Q603
Q611
Q680
D601
D611
D612
D616
D619
D620
D680
C601
C602
C603
C604
C621
C622
C623
C624
C625
C626
C627
C628
C629
C630
C631
C632
C633
C634
C638
C657
R603
R604
R605
R606
R607
R608
R609
R612
R613
R616
R617
R618
R619
R620
R621
R622
R623
R624
R625
R626
R627
R628
R629
R630
R631
R632
R633
R634
R643
R644
R645
R652
R653
R680
W1
W3
W4
W5
W6
W7
W8
W11
W12
W13
W14
W15
W16
W17
W18
W19
W20
W21
W22
W31
W32
W33
W34
W35
W36
W37
W41
W42
W51
W61
W62
W71
W72
W73
W74
W81
W82
W83
W84
W85
W86
W87
PbF
VOLUME
SENSOR

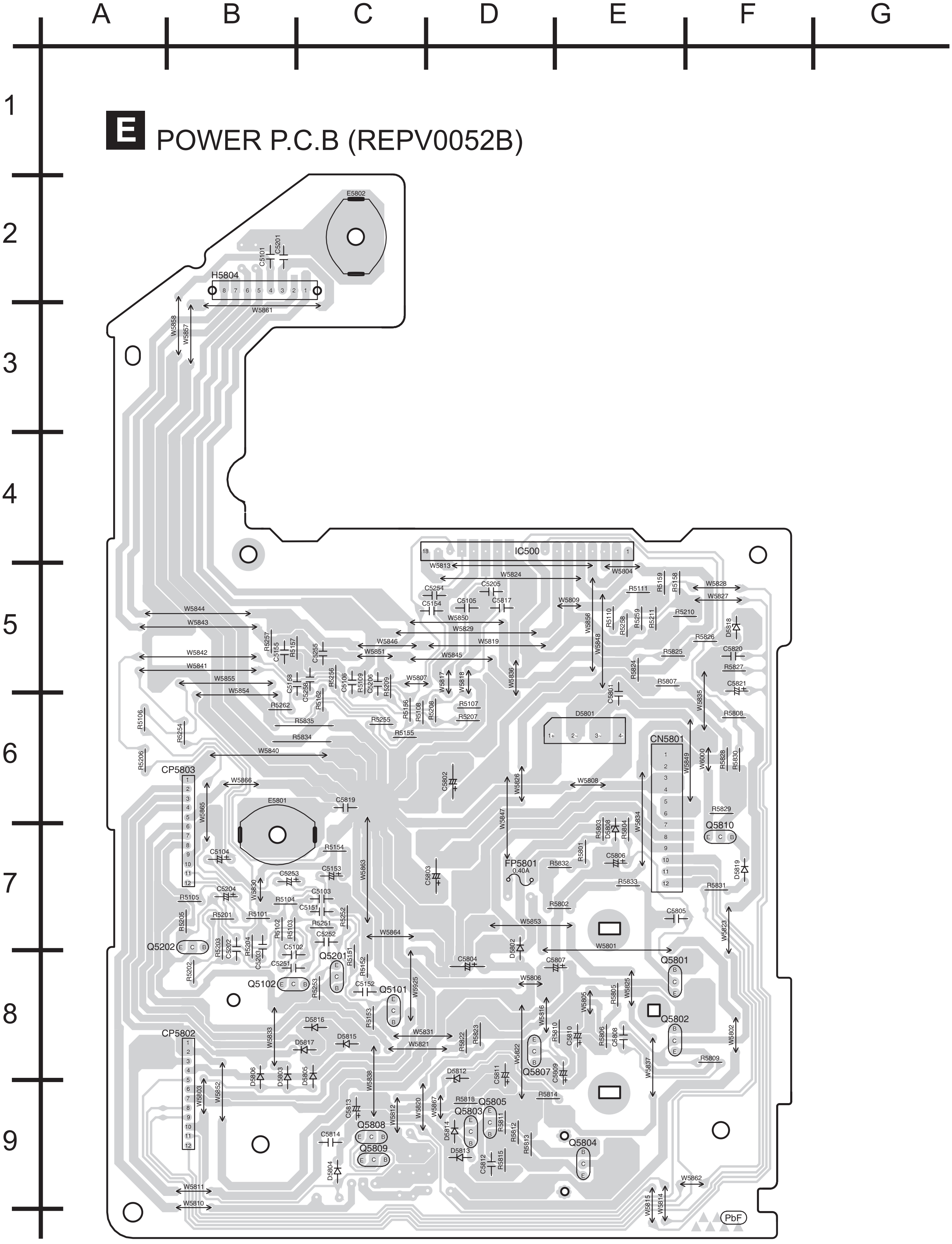
22.4. Transformer P.C.B.


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
D
TRANSFORMER P.C.B (REPV0052B)
F1
125V 2A
FC2
FC1
T5902
SUB-TRANSFORMER
W1000
RL5901
W1001
W1002
T5901
TRANSFORMER
PRIMARY
SECONDARY
Z5901
R5901
L5901
JK5901
W1003
W1004
W1005
W1006
AC IN ∿
120V 60Hz

CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE.
PLEASE DO NOT TOUCH THIS P.C.B

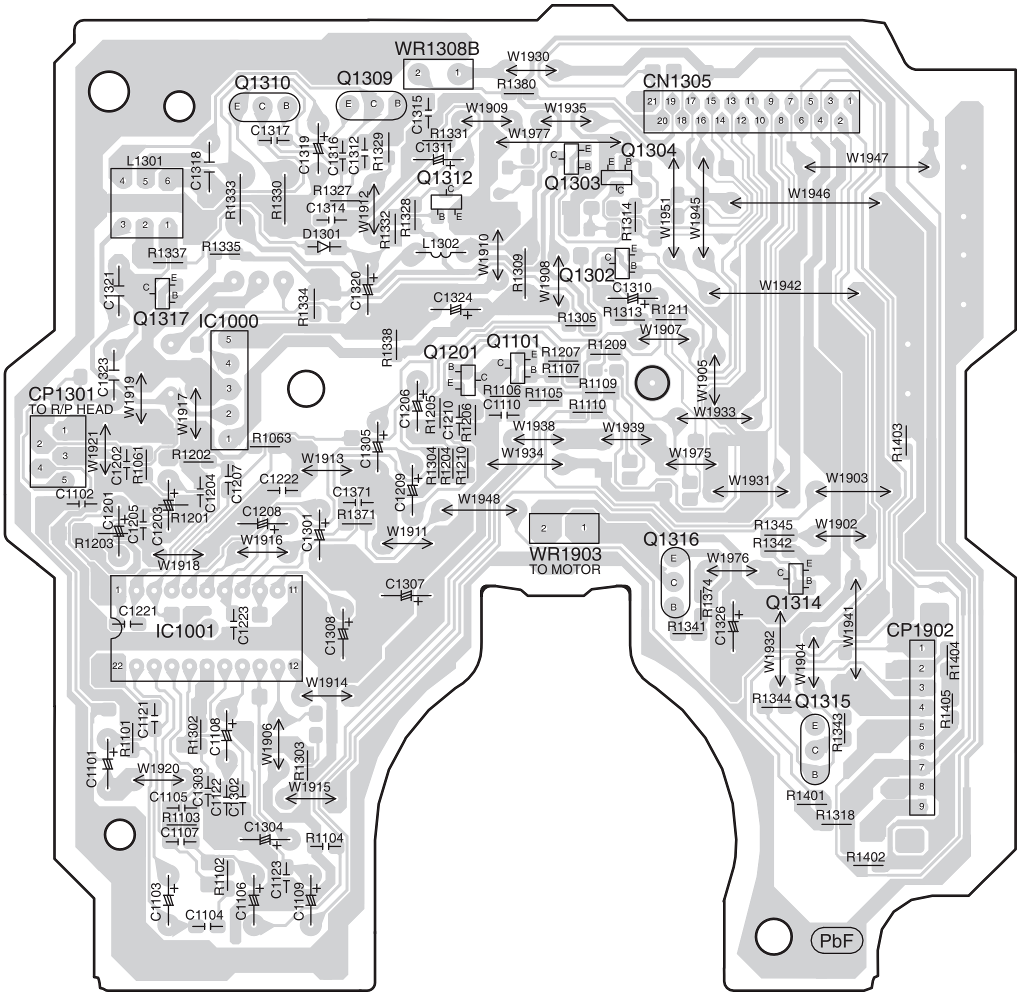

G
H
I
J
K
L
M
F1
125V 2A
FC1
W1001
W1002
3
4
Z5901
R5901
W5921
W5920
W5902
W5916
W5917
W5912
W5913
W5914
D5908
D5912
D5910
C5916
C5909
C5917
C5907
D5909
FP5901
4A
C5906
D5905
D5907
W5910
W5904
W5905
R5907
R5906
Q5902
C5908
R5905
D5904
D5906
W5911
FP5902
1A
C5915
Q5903
C5912
D5913
W5901
R5908
R5911
W5924
C5913
D5911
D5917
W5922
W5903
Q5904
C5914
R5912
R5914
R5913
CN5901
W5923
C5901
C5902
D5902
D5901
D5903
R5903
C5903
R5904
W5915
W5918
R5902
Q5901
C5904
C5905
H5902
1
2
3
4
5
6
7
8
9
10
11
12
B
C
E
PbF

22.5. Power P.C.B.

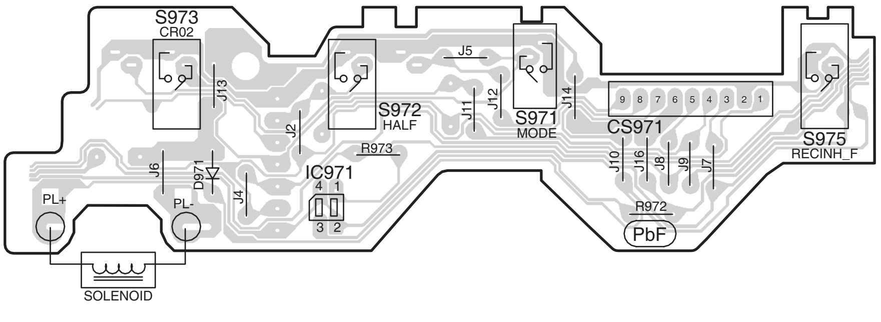

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
E
POWER P.C.B (REPV0052B)
E5802
C5101
C5201
H5804
8 7 6 5 4 3 2 1
W5861
W5858
W5857
IC500
18
1
W5813
W5804
W5824
C5254
C5205
C5154
C5105
C5817
W5809
R5111
R5159
R5158
W5828
W5827
W5850
R5110
R5258
R5259
R5211
R5210
W5856
W5844
W5843
W5829
D5818
R5826
W5848
W5846
W5819
W5842
R5257
C5155
R5157
C5255
W5851
W5845
R5825
C5820
W5841
R5827
W5855
W5854
C5158
C5258
R5162
R5256
C5106
R5109
C5206
R5209
W5807
W5817
W5818
W5836
R5824
C5801
R5807
C5821
W5835
R5262
R5156
R5108
R5208
R5107
R5207
D5801
R5808
R5106
R5254
R5835
R5255
R5155
1+
2~
3~
4-
R5834
CN5801
W6000
R5828
R5830
W5849
R5206
W5840
CP5803
C5802
W5826
W5808
W5866
W5865
E5801
C5819
W5847
R5803
D5808
R5804
W5834
R5829
Q5810
E C B
R5154
FP5801
0.40A
R5832
R5801
C5806
D5819
C5104
C5253
C5153
W5863
C5803
R5833
C5204
W5830
R5105
R5104
C5103
R5831
C5151
R5802
C5805
R5205
R5201
R5101
R5252
R5251
R5102
R5103
W5853
W5823
C5252
W5864
Q5202
R5203
C5202
R5204
C5203
C5102
Q5201
R5151
D5802
W5801
C5251
R5152
C5804
C5807
Q5801
R5202
Q5102
R5253
C5152
Q5101
W5925
W5806
W5805
R5805
W5825
Q5802
W5816
R5153
D5816
W5833
W5831
D5815
R5822
R5823
R5810
C5810
R5806
C5808
W5802
CP5802
D5817
W5821
W5822
Q5807
C5809
R5809
D5812
C5811
W5837
D5806
D5803
D5805
W5852
W5803
W5838
R5814
C5813
R5818
Q5805
W5812
W5820
W5867
Q5803
D5814
R5811
R5812
R5813
Q5808
Q5809
D5813
C5814
Q5804
C5812
R5815
D5804
W5862
W5811
W5810
W5815
W5814
PbF

22.6. Deck P.C.B. & Deck Mechanism P.C.B.

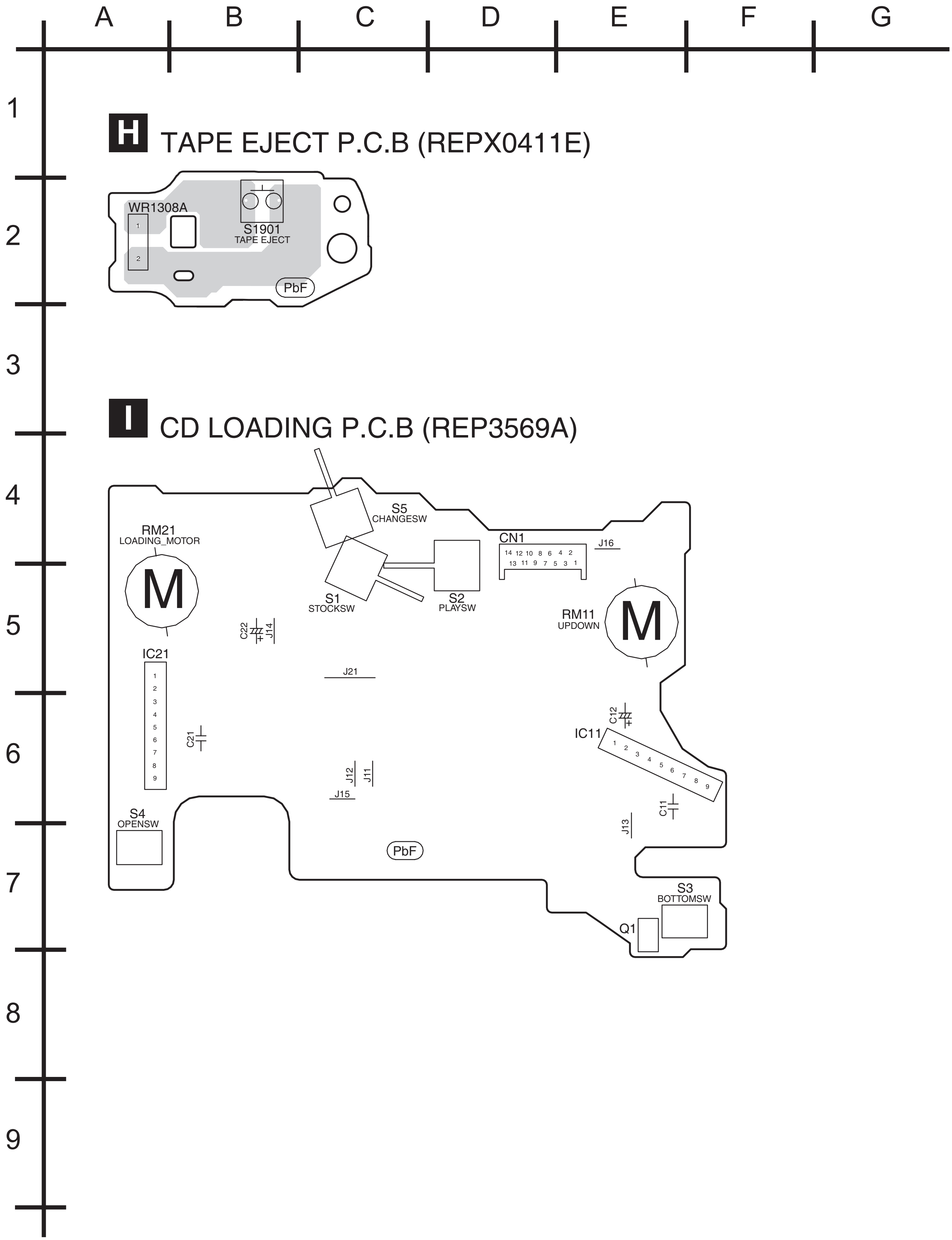
F DECK P.C.B (REPX0411E)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
WR1308B
W1930
R1380
Q1310
Q1309
CN1305
C1317
C1319
C1316
C1312
R1329
C1315
R1331
C1311
W1909
W1935
W1977
Q1304
Q1303
W1947
W1946
L1301
C1318
R1333
R1330
R1327
Q1312
C1314
W1912
R1332
R1328
D1301
L1302
W1910
R1337
R1335
W1951
W1945
R1314
C1321
Q1317
IC1000
R1334
C1320
C1324
R1309
W1908
Q1302
C1310
R1313
R1211
R1305
W1942
W1907
R1338
Q1201
Q1101
R1207
R1209
R1107
R1106
R1109
R1105
R1110
C1110
W1905
C1206
R1205
C1210
R1206
W1933
CP1301
TO R/P HEAD
C1323
W1919
W1917
W1921
C1202
R1061
R1063
R1202
W1913
C1305
W1938
W1939
W1934
W1975
R1403
C1102
C1201
C1205
C1203
R1201
C1204
C1207
C1222
C1371
R1371
C1209
R1304
R1204
R1210
W1931
W1903
W1948
R1203
W1918
C1208
W1916
C1301
W1911
WR1903
TO MOTOR
Q1316
R1345
R1342
W1902
W1976
Q1314
IC1001
C1221
C1223
C1307
C1308
R1374
C1326
R1341
W1941
CP1902
W1932
W1904
R1404
W1914
R1344
Q1315
R1405
C1121
R1101
R1302
C1108
W1906
R1343
C1101
W1920
C1303
C1122
C1302
R1303
W1915
C1105
R1103
C1107
C1304
R1104
R1401
R1318
R1402
R1102
C1106
C1123
C1103
C1104
C1109
PbF

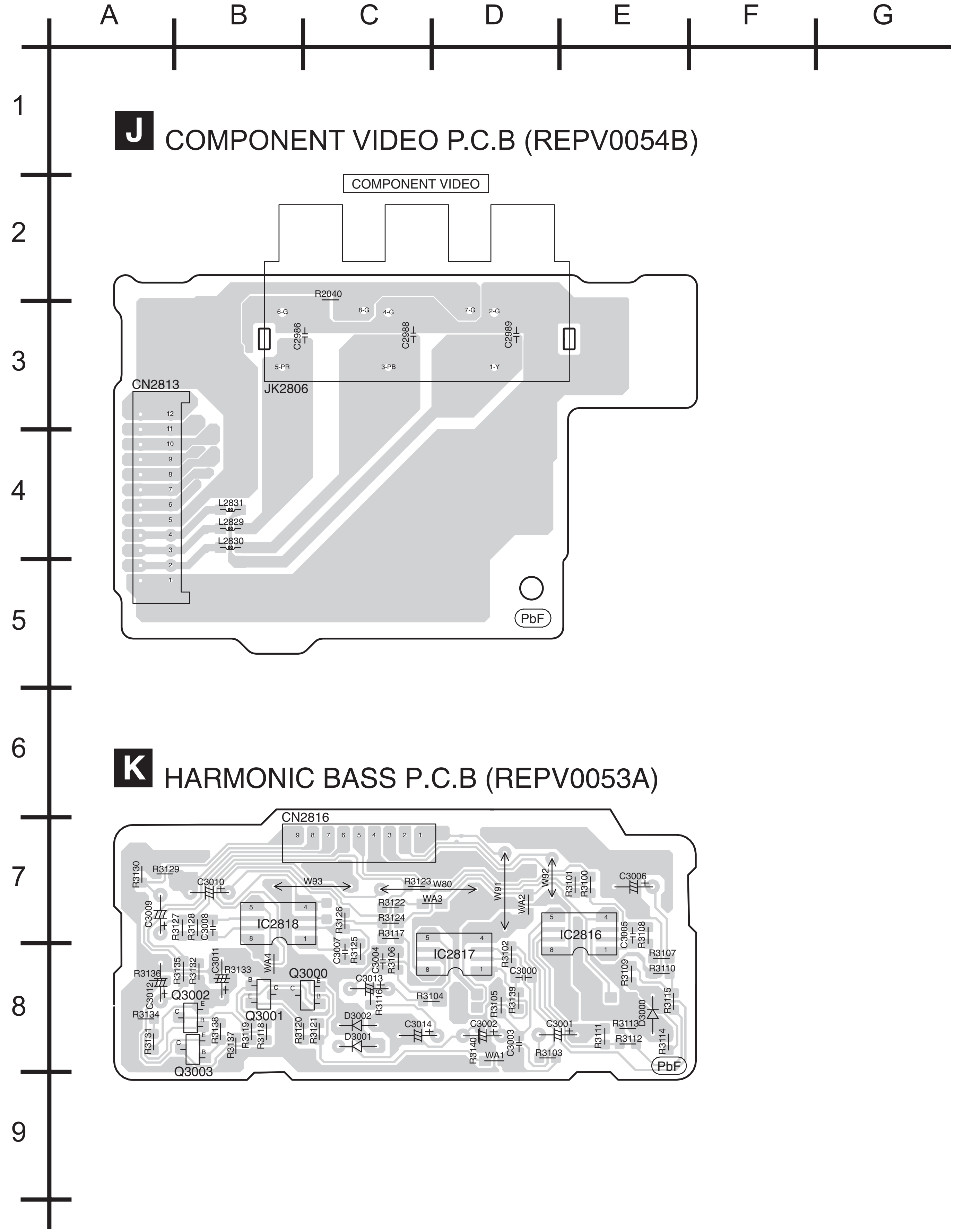
G DECK MECHANISM P.C.B (REPX0321H)


8
9
S973
CR02
J13
S972
HALF
J2
J5
J11
J12
S971
MODE
J14
CS971
S975
RECINH_F
R973
J6
D971
J4
IC971
J10
J16
J8
J9
J7
R972
PL+
PL-
SOLENOID
PbF

22.7. Tape Eject P.C.B. & CD Loading P.C.B.


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
H TAPE EJECT P.C.B (REPX0411E)
WR1308A
1
2
S1901
TAPE EJECT
PbF
I CD LOADING P.C.B (REP3569A)
RM21
LOADING_MOTOR
M
S5
CHANGESW
CN1
14 12 10 8 6 4 2
13 11 9 7 5 3 1
J16
S1
STOCKSW
S2
PLAYSW
RM11
UPDOWN
M
C22
J14
IC21
1
2
3
4
5
6
7
8
9
J21
C21
C12
IC11
1 2 3 4 5 6 7 8 9
J12
J11
J15
C11
J13
S4
OPENSW
PbF
S3
BOTTOMSW
Q1

22.8. Component Video P.C.B. & Harmonic Bass P.C.B.

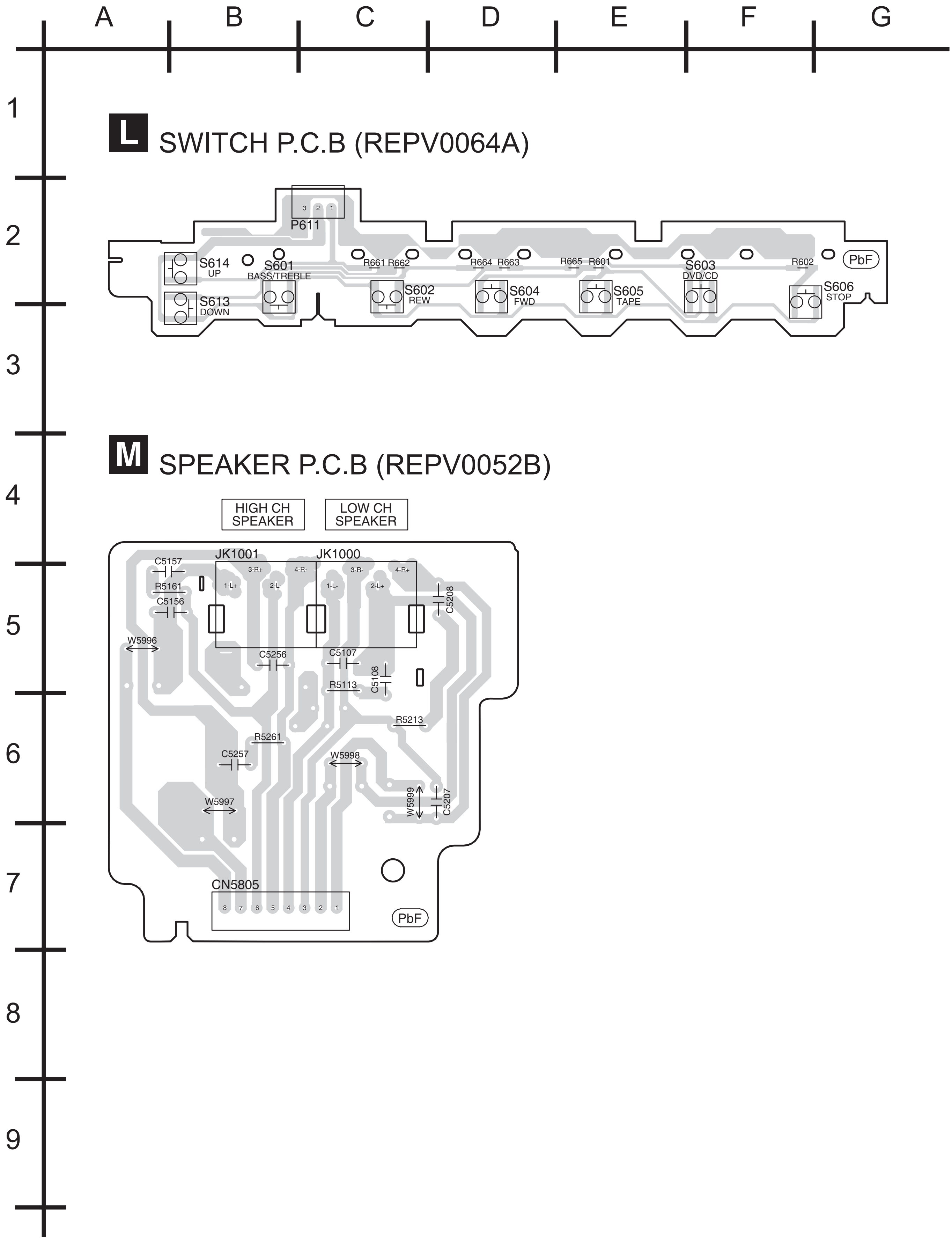


J COMPONENT VIDEO P.C.B (REPV0054B)

K HARMONIC BASS P.C.B (REPV0053A)

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
COMPONENT VIDEO
R2040
6-G
8-G
4-G
7-G
2-G
C2986
C2988
C2989
5-PR
3-PB
1-Y
JK2806
CN2813
12
11
10
9
8
7
6
5
4
3
2
1
L2831
L2829
L2830
PbF
CN2816
9 8 7 6 5 4 3 2 1
R3130
R3129
C3010
W93
R3123
W80
W91
W92
R3101
R3100
C3006
C3009
R3127
R3128
C3008
IC2818
R3126
R3122
WA3
R3124
R3117
WA2
IC2816
C3005
R3108
IC2817
C3007
R3125
C3004
R3106
R3102
C3000
R3107
R3110
R3109
R3136
R3135
R3132
C3011
R3133
WA4
Q3000
C3013
C3012
Q3002
R3116
R3104
R3105
R3139
R3115
D3000
R3134
Q3001
D3002
C3014
C3002
C3001
R3113
R3131
R3138
R3137
R3119
R3118
R3120
R3121
D3001
R3140
C3003
WA1
R3103
R3111
R3112
R3114
Q3003
PbF

22.9. Switch P.C.B. & Speaker P.C.B.

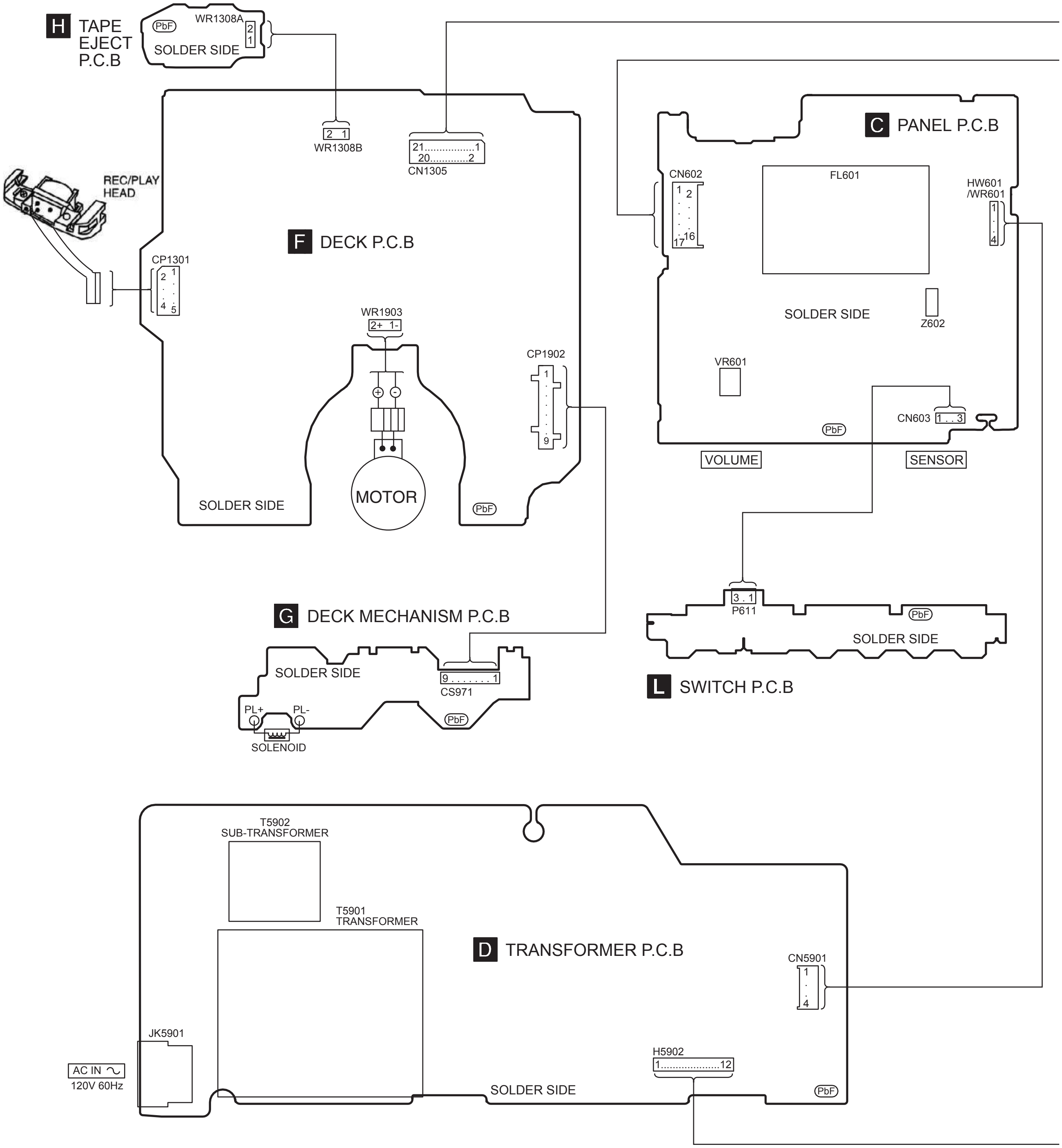


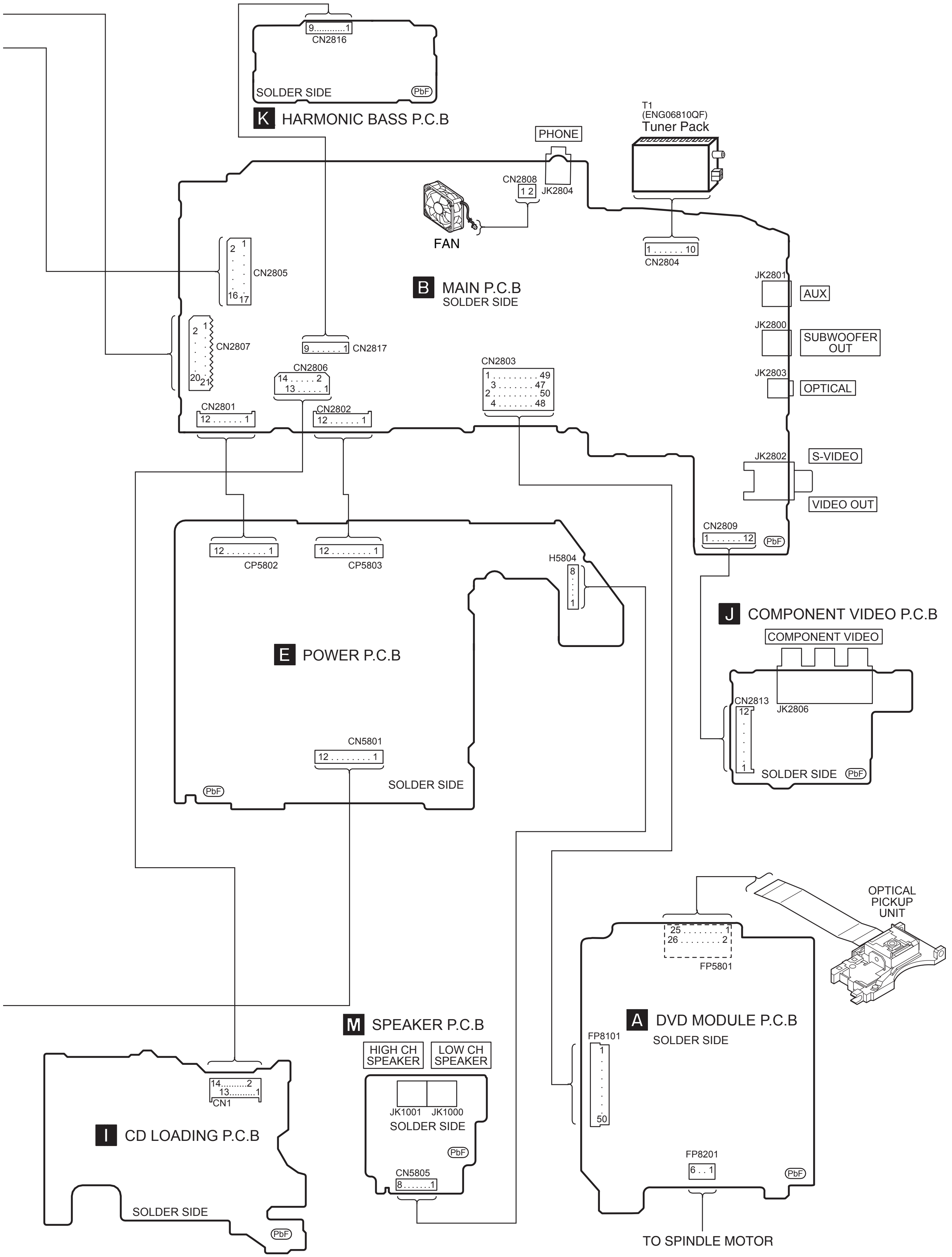
L SWITCH P.C.B (REPV0064A)

M SPEAKER P.C.B (REPV0052B)

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
P611
3 2 1
S614
UP
S613
DOWN
S601
BASS/TREBLE
R661 R662
S602
REW
R664 R663
S604
FWD
R665 R601
S605
TAPE
S603
DVD/CD
R602
S606
STOP
PbF
HIGH CH SPEAKER
LOW CH SPEAKER
JK1001
JK1000
3-R+
4-R-
1-L+
2-L-
3-R-
4-R+
1-L-
2-L+
C5157
R5161
C5156
C5208
W5996
C5256
C5107
C5108
R5113
R5213
R5261
C5257
W5998
W5997
W5999
C5207
CN5805
8 7 6 5 4 3 2 1
PbF

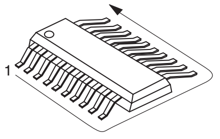
23 Wiring Connection Diagram


H
TAPE EJECT P.C.B
PbF
WR1308A
2
1
SOLDER SIDE
2 1
WR1308B
21................1
20............2
CN1305
REC/PLAY HEAD
CP1301
2
1
4
5
F
DECK P.C.B
WR1903
2+ 1-
CP1902
1
9
MOTOR
SOLDER SIDE
PbF
C
PANEL P.C.B
CN602
1
2
17
16
FL601
HW601 /WR601
1
4
SOLDER SIDE
Z602
VR601
CN603
1 . . 3
PbF
VOLUME
SENSOR
3 . 1
P611
PbF
SOLDER SIDE
L
SWITCH P.C.B
G
DECK MECHANISM P.C.B
SOLDER SIDE
9 1
CS971
PL+
PL-
SOLENOID
PbF
T5902
SUB-TRANSFORMER
T5901
TRANSFORMER
D
TRANSFORMER P.C.B
CN5901
1
4
JK5901
AC IN ∿
120V 60Hz
H5902
1....................12
SOLDER SIDE
PbF

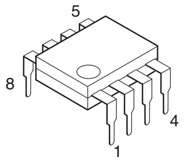

9...........1
CN2816
SOLDER SIDE
PbF
K HARMONIC BASS P.C.B
T1
(ENG06810QF)
Tuner Pack
PHONE
CN2808
1 2
JK2804
FAN
1 10
CN2804
2 1
16 17
CN2805
B MAIN P.C.B
SOLDER SIDE
JK2801
AUX
JK2800
SUBWOOFER OUT
JK2803
OPTICAL
2 1
20 21
CN2807
9 1
CN2817
CN2806
14 2
13 1
CN2803
1 49
3 47
2 50
4 48
CN2801
12 1
CN2802
12 1
JK2802
S-VIDEO
VIDEO OUT
CN2809
1 12
PbF
12 1
CP5802
12 1
CP5803
H5804
8
1
E POWER P.C.B
CN5801
12 1
SOLDER SIDE
PbF
J COMPONENT VIDEO P.C.B
COMPONENT VIDEO
CN2813
12
1
JK2806
SOLDER SIDE
PbF
OPTICAL PICKUP UNIT
25 1
26 2
FP5801
A DVD MODULE P.C.B
SOLDER SIDE
FP8101
1
50
FP8201
6 . . 1
PbF
TO SPINDLE MOTOR
M SPEAKER P.C.B
HIGH CH SPEAKER
LOW CH SPEAKER
JK1001
JK1000
SOLDER SIDE
PbF
CN5805
8.......1
14.........2
13..........1
CN1
I CD LOADING P.C.B
SOLDER SIDE
PbF

24 Type Illustrations of ICs, Transistors & Diodes

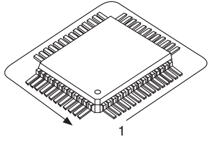
KIA4558FEL (8P)
C9ZB00000431 (34P)
C0FBBK000049 (16P)
C3ABPG000133 (54P)
C1BB00000822 (40P)



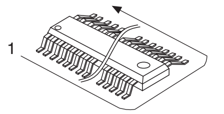
C0AABB000085



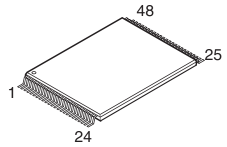
C0HBB0000039 (64P)
MN2DS0003APH (256P)
C2CBJG000573 (100P)



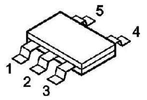
AN7326K (22P)



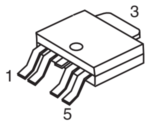
RFKWMH82H160



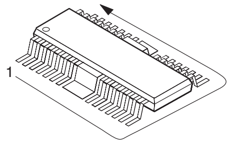
C0EBA0000031
C0JBAA000346



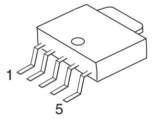
C0DBEFG00003
C0DBZHG00016



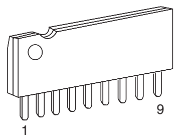
C0GBG0000048 (28P)



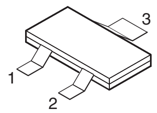
C0DBZHE00011
C0DBAJG00002



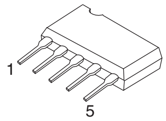
C0GAG0000007



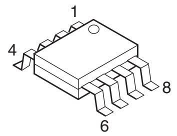
C0EBE0000384



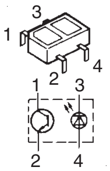
C1AA00000612



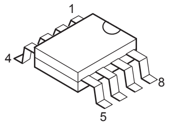
C0CBCBD00018



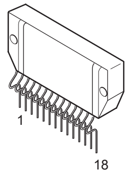
CNB13030R2AU



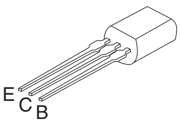
C0ABBB000067



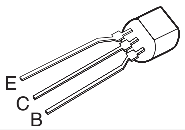
RSN315H41-P (18P)



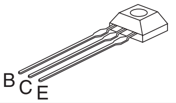
2SD09650RA
KTA12710YTA
KTA1504GRTA
KTC32030YTA



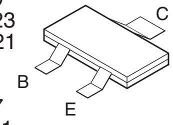
2SB0621AHA



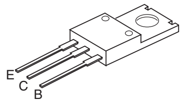
KTC3199GRTA
KRC102MTA
KRA110MTA
B1ACCF000039
B1GCCFJJ0015



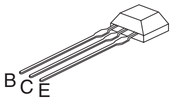
KRC119STA
2SB09700RL
B1ABGC000005
B1GBCFGH0001
B1GDCFJJ0002
B1ABCF000011
B1ADHG000003
B1ABDF000018
B1GBCFJN0021
B1ABCF000131
B1GDCFGH0002
B1GBCFLL0028
B1GBCFJJ0039
B1GBCFGG0023
B1GDCFGG0021
UNR221200L
UNR521400L
B1GBCFJJ0047
B1GDCFEC0001



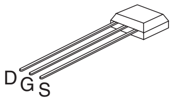
KTC2026
B1BCCG000021



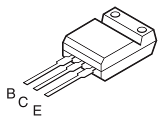
B1AAGC000006
B1AAGC000007



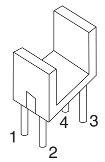
B1CABA000002



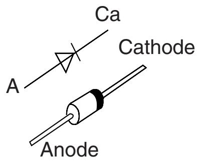
2SD21370PA



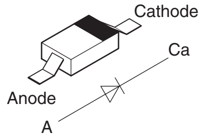
B3NAA0000068



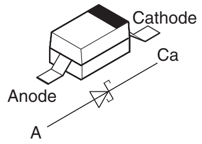
B0EAKM000117


Ca
Cathode
A
Anode

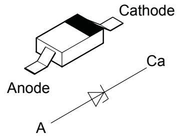
MA2J11100L
B0ACCK000005
B0ACCE000003
MA2J72800L


Cathode
Ca
Anode
A

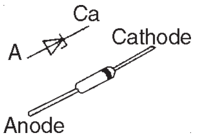
B0JCPC000004
B0JACE000003


Cathode
Ca
Anode
A

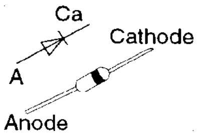
B0BC6R100010
B0BC8R100004
B0BC7R500001
B0BC5R600003


Cathode
Ca
Anode
A

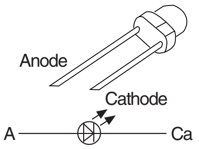
B0BA9R600002
B0BA6R600008
B0BA03100002
MTZJ15BTA


Ca
Cathode
A
Anode

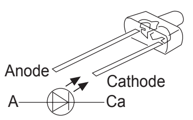
B0AACK000004
MA2C16500E


Ca
Cathode
A
Anode

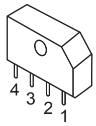
B3AEA0000058
B3ACA0000261


Anode
Cathode
A
Ca

B3AAA0000487


Anode
Cathode
A
Ca

B0FBAM000009



25 Terminal Function of IC’s

25.1. IC2801(C2CBJG000573) Microprocessor

Pin No.	Mark	I/O	Function
1	ST_SW	I	Stock Switch Change
2	OP/CL_REV	O	Reverse control signal for OPEN/ CLOSE motor
3	OP/CL_FWD	O	Forward control signal for OPEN/ CLOSE Motor
4	OPEN_SW	I	Signal from Rotary tray OPEN Switch
5	POSITION	I	Signal from of Position Detection sensor
6	N.C.	-	No Connection
7	N.C.	-	No Connection
8	BYTE	I	External Data Bus Width Select input
9	CNVSS	-	VSS (GND) [Pull to Gnd via Resistor]
10	XCIN	-	SUB CLOCK INPUT (32.768 kHz)
11	XCOUT	-	SUB CLOCK OUTPUT (32.768 kHz)
12	RESET	I	SYSTEM RESET INPUT
13	XOUT	-	MAIN CLOCK OUTPUT (10 MHZ)
14	Vss	-	GNS (0V)
15	XIN	-	MAIN CLOCK INPUT (10 MHZ)
16	VCC	-	POWER SUPPLY (5V)
17	NMI	I	CONNECT TO VCC, EXTERNAL INTERRUPT I/P
18	RMT	I	REMOCON INPUT
19	SYNC	I	AC FAILURE DETECT INPUT
20	Up/ Down R	O	Changer Motor 2 Reverse Control
21	Change SW	I	Changer Change Switch
22	BOTTOM SW	I	CHANGER BOTTOM SWITCH
23	EDA	I/O	DATA signal for the EEPROM
24	E_CLK	O	CLOCK signal for the EEPROM
25	E_CS	O	LAT signal for the EEPROM
26	UP/ DOWN F	O	Changer Motor 2 Forward Control
27	TU_TUNED	I	SIGNAL DET Input from Tuner
28	TU_ST/ DO	I	Stereo Indicator from Tuner/ DO-OUTPUT of Tuner IC
29	TU_SCL	O	Clock Signal for Tuner
30	TU_SDA	I/O	Data Signal for Tuner
31	N.C.	-	No Connection
32	N.C.	-	No Connection
33	N.C.	-	No Connection
34	N.C.	-	No Connection
35	DVD_CMD	O	CMD signal for the DVD Module
36	DVD_STA	I	STATUS signal from the DVD module
37	DVD_CLK	I	CLK signal for the DVD Module
38	HB_LVL	O	Harmonic Bass LEVEL Control
39	Progressive	O	Video Output Control for Progressive
40	HB_MUTE	O	Harmonic Bass MUTE
41	EPM	I	For Flash
42	SUB MUTE	O	Subwoofer Mute Signal
43	MUTE_A	O	Mute Audio signal
44	DVD_MUTE	I	Signal fromDVD module control mute circuit
45	RGBH	O	RGB video output control signal
46	VMIX_CTL	O	Control signal for the video signal Mix
47	WIDE1	O	S-video output control
48	ASP_DATA	O	DATA signal for 6ch VOL ASP
49	ASP_CLK	O	CLOCK signal for 6ch VOL ASP
50	N.C.	-	No Connection
51	N.C.	-	No Connection
52	KA_LATCH	O	Karaoke Latch
53	KA_DATA	O	Karaoke Data
54	KA_CLK	O	Karaoke Clock
55	Demo	I	DEMO detect Key (H= Default On, L= Default Off)
56	N.C.	-	No Connection
57	N.C.	-	No Connection
58	N.C.	-	No Connection
59	N.C.	-	No Connection
60	N.C.	-	No Connection
61	N.C.	-	No Connection
62	VCC	-	POWER SUPPLY 5.0V
63	N.C.	-	No Connection
64	VSS	-	GND (0V)
65	HB_LED	O	Harmonic Bass LED Control
66	N.C.	-	No Connection
67	N.C.	-	No Connection
68	DVD_PCONT	O	Control Signal for the Power for the DVD MODULE
69	N.C.	-	No Connection
70	PCONT	O	Control Signal for the Power Control Relay
71	MUTE_H	O	HIC MUTE
72	DC DET	I	Signal from the DC Detection circuit
73	N.C.	-	No Connection
74	N.C.	-	No Connection
75	JOG_B	I	Signal B from Volume JOG
76	JOG_A	I	Signal A from Volume JOG
77	MIC_SW	I	MIC Switch detection
78	REC	O	Deck Recording Control (Recording= H)
79	PHOTO	I	Deck Photo Detection
80	DMT	O	Deck Mute at Mecha Transition (L= Mute Off, H= Mute On)
81	BP1	O	AM Beat proof 1 (L= BP1, H= BP2)
82	MOTOR	O	Deck Motor Control (L= OFF, H=ON)
83	PLUNGER	O	Deck Plunger Control (L=OFF, H=ON)
84	FLD_CLK	O	Clock Signal for the FL Driver
85	FLD_DATA	O	Data input for the FL Driver
86	LED CONTROL	O	LED Control For dimmer
87	FLD_RST	O	Reset Signal for the FL Driver
88	FLD_CS	O	Latch Signal for the FL Driver
89	DECK_AD1	I	Deck AD Input 1
90	DECK_AD2	I	Deck AD Input 2
91	Key 3	I	Key 3 line input
92	Key 2	I	Key 2 line input
93	DES3	I	REGION Setting for DVD
94	DES2	I	REGION Setting for SYSTEM
95	DES1	I	REGION Setting for TUNER
96	AVSS	-	ANALOG POWER SUPPLY INPUT
97	KEY 1	I	Key 1 line input
98	VREF	-	REFERENCE VOLTAGE INPUT
99	AVCC	-	ANALOG POWER SUPPLY INPUT
100	PLAY_SW	I	Play Switch

26 Parts Location and Replacement Parts List

Notes:

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

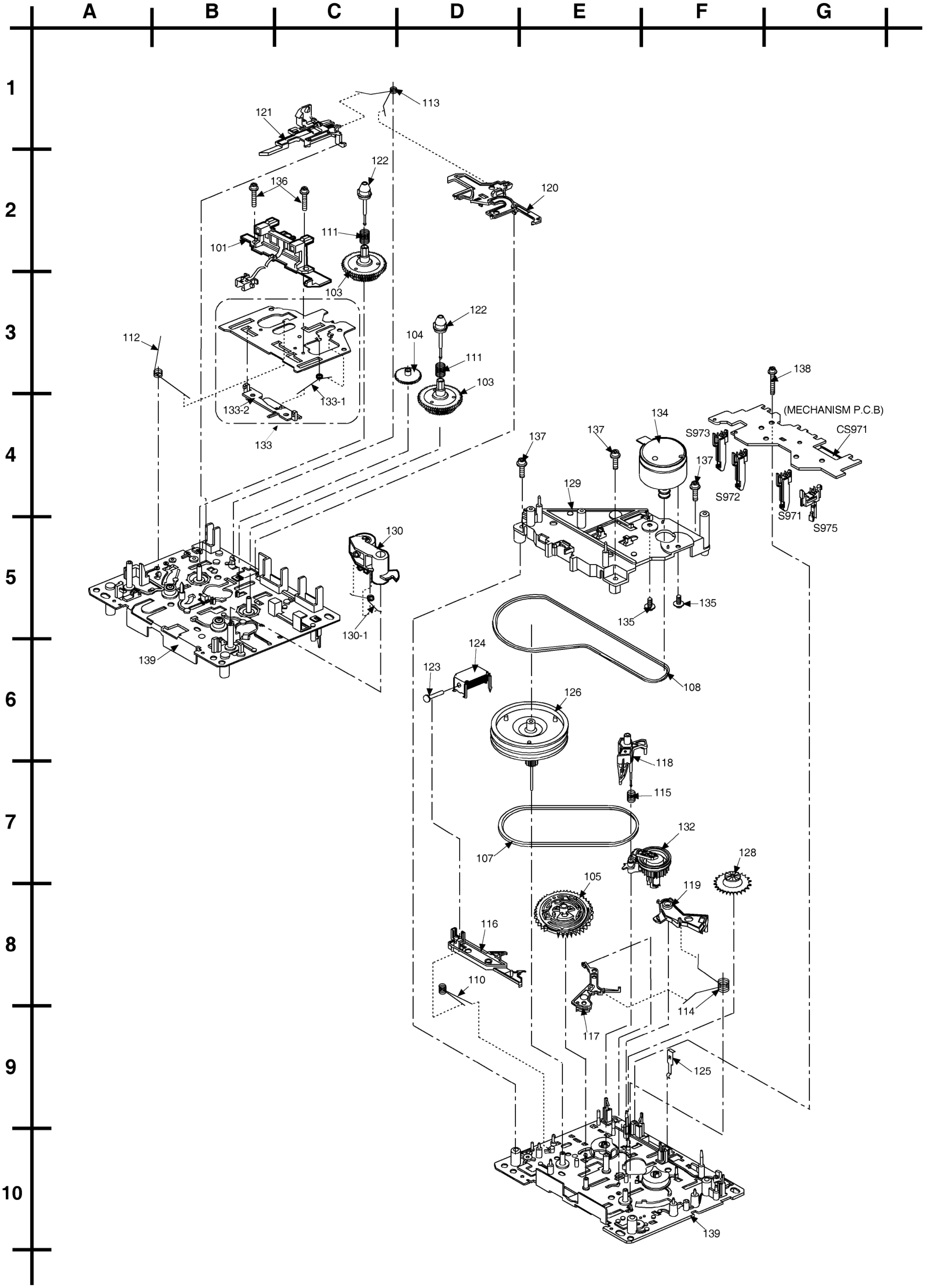
  When replacing any of these components, be sure to use only manufacturers's specified parts shown in the parts list.
- The parenthesized indications in the Remarks column specify the areas or color. (Refer to the cover page for area or color.)

  Parts without these indications can be used for all areas.
- Warning: This product uses a laser diode. Refer to caution statements on “Precaution of Laser Diode”.
- Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads(pF); Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000(ohms).
- The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the lows govening part and product retention. After the end of this period, the assembly will no longer be available.
- [M] Indicates in the Remarks columns indicates parts that are supplied by **PAVCSG**.
- [SPG] Indicates in the Remarks columns indicates parts that are supplied by **PAVC**.
- Reference for O/I book languages are as follows :

Ar : Arabic
Cf : Canadian French
Cz : Czech
Da : Danish
Du : Dutch
En : English
Fr : French
Ge : German
It : Italian
Ko : Korean
Po : Polish
Su : Russian
Sp : Spanish
Sw : Swedish
Co : Traditional Chinese
Cn : Simplified Chinese
Pe: Persian
Ur: Ukraine

26.1. Deck Mechanism (RAA4402-S)

26.1.1. Deck Mechanism Parts Location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(MECHANISM P.C.B)
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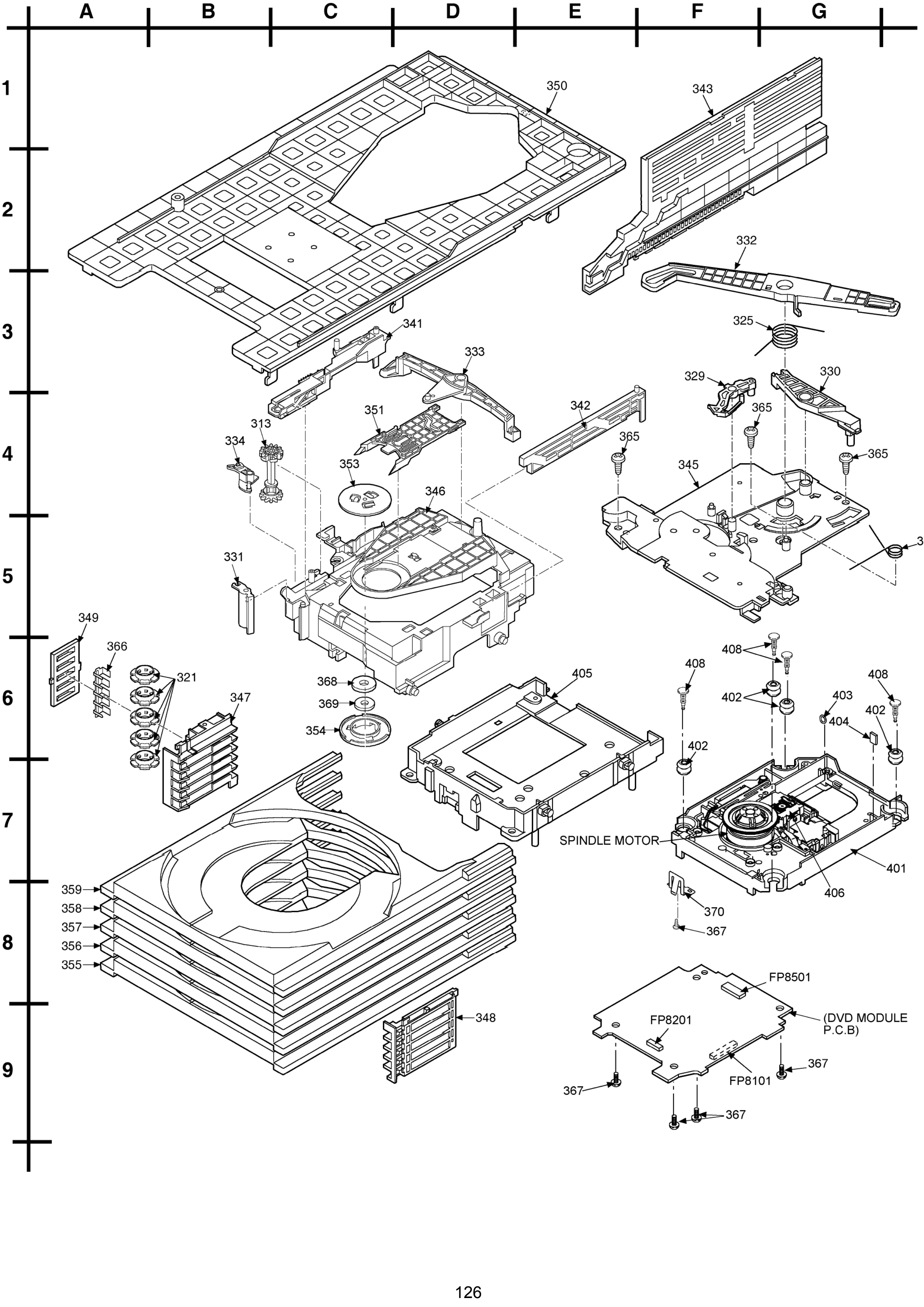
26.1.2. Deck Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RED0067	R/P HEAD BLOCK UNIT	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026	MAIN GEAR	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0064	CAPSTAN BELT	[M]
110	RMB0312	TRIGGER LEVER SPRING	[M]
111	RMB0400	REEL SPRING	[M]
112	RMB0403	HEAB PANEL SPRING	[M]
113	RMB0404	BRAKE ROD SPRING	[M]
114	RMB0406	FR LEVER SPRING	[M]
115	RMB0408	THRUST SPRING	[M]
116	RML0370	TRIGGER LEVER	[M]
117	RML0371	FR LEVER	[M]
118	RML0372	WINDING LEVER	[M]
119	RML0374	EJECT LEVER	[M]
120	RMM0131	BRAKE ROD	[M]
121	RMM0133	EJECT ROD	[M]
122	RMQ0519	REEL HUB	[M]
123	RMS0398-1	MOVING CORE	[M]
124	RXQ0470	PLUNGER	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0061	FLYWHEEL F ASSY	[M]
128	RXG0040	FF RELAY GEAR ASSY	[M]
129	RMK0283A-J	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASSY	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
132	RXL0126	WINDING ARM ASSY	[M]
133	RXQ0412	HEAD PANEL ASSY	[M]
133-1	RMB0405	FR ROD SPRING	[M]
133-2	RMM0132	FR ROD	[M]
134	REM0120	CAP MOTOR ASSY	[M]
135	RHD26022	MOTOR SCREW	[M]
136	XTW2+5L	HEAD BLOCK UNIT SCREW	[M]
137	XTW26+10S	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17	PCB EARTH SCREW	[M]
139	RFKJSTR280PP	CHASSIS ASS’Y	[M]

26.2. CD Loading Mechanism

26.2.1. CD Loading Mechanism Parts Location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SPINDLE MOTOR
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FP8501
FP8201
(DVD MODULE
P.C.B)
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FP8101
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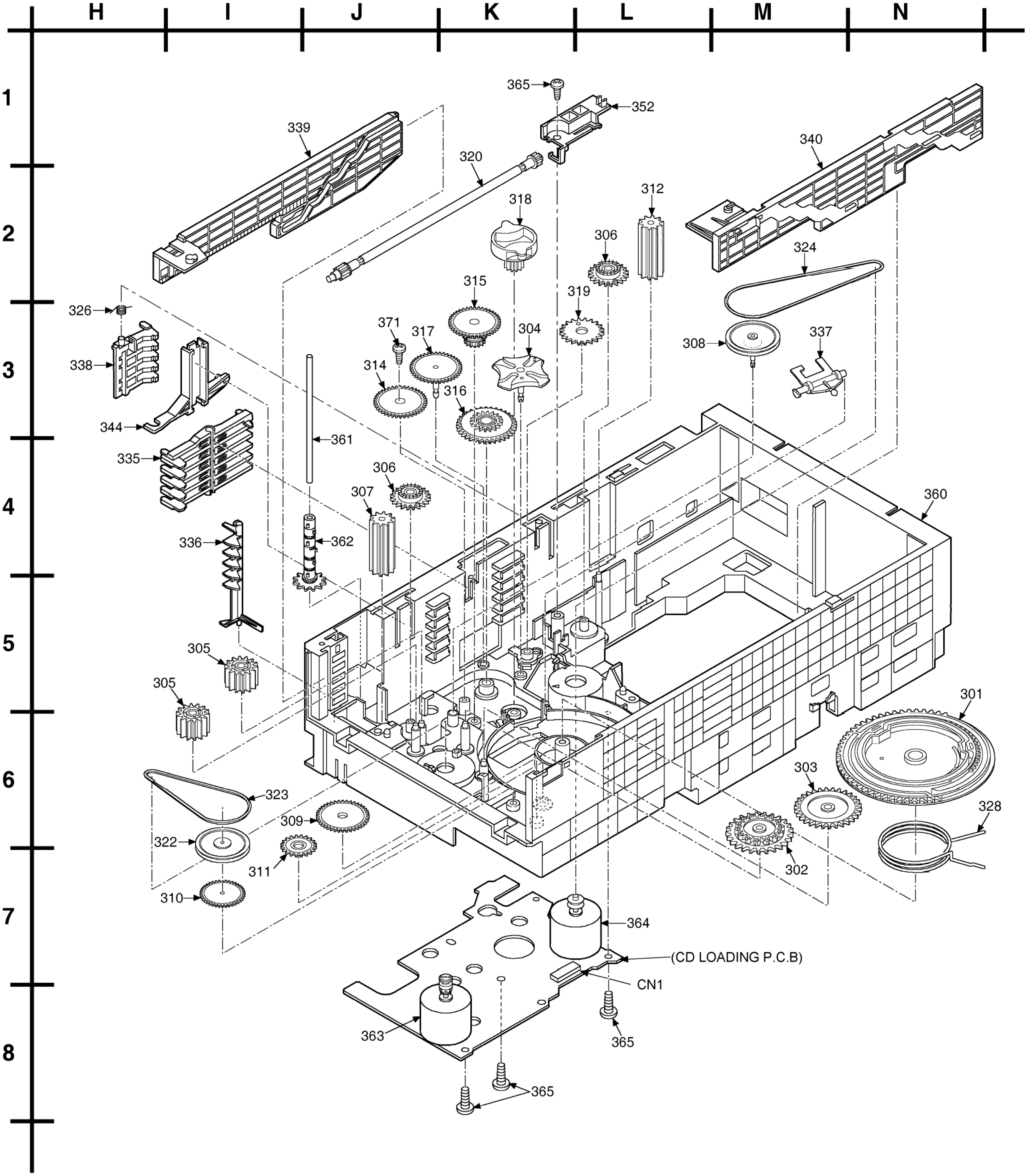
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(CD LOADING P.C.B)
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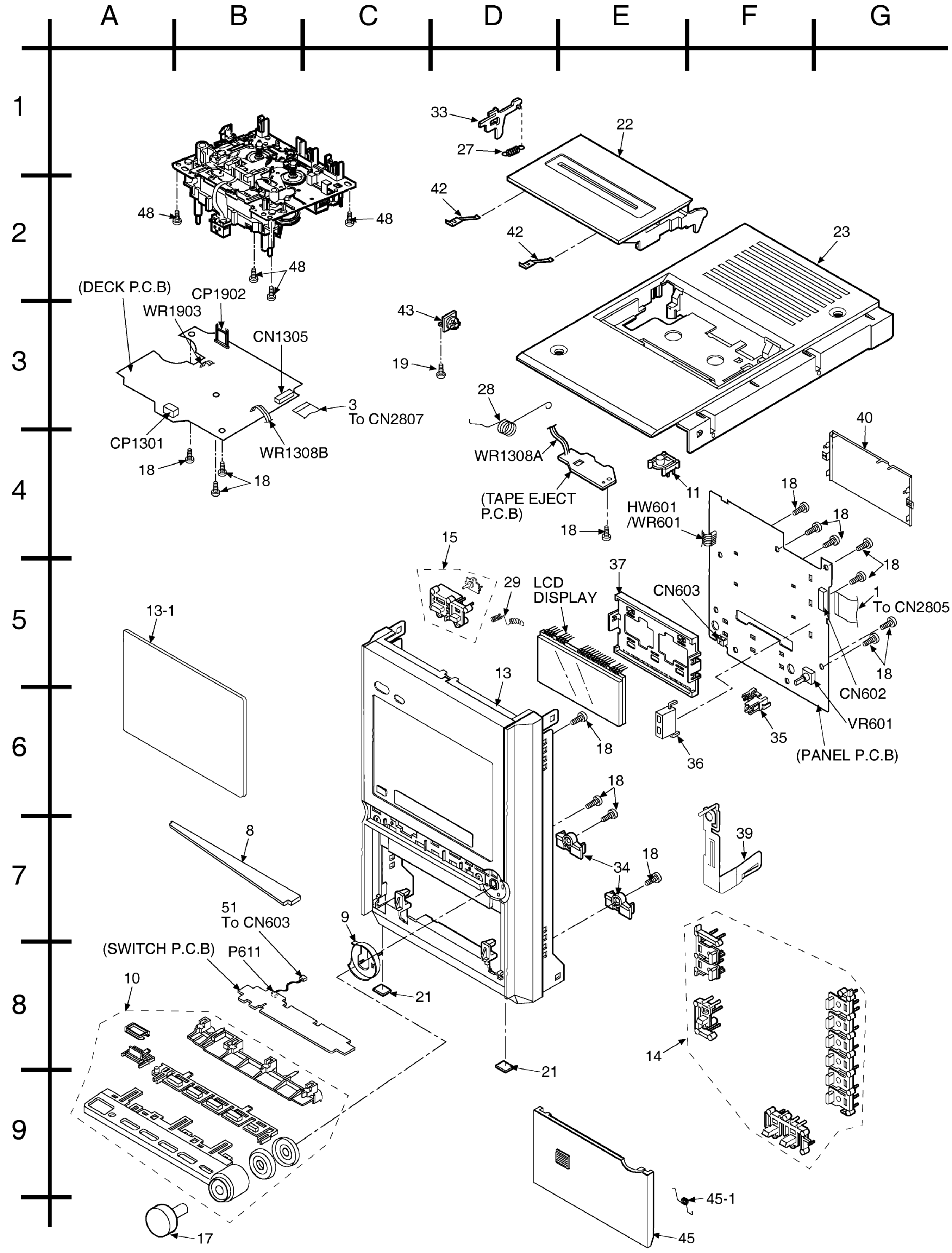
26.2.2. CD Loading Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RDG0519	MAIN GEAR	[M]
302	RDG0520	SPEED UP GEAR	[M]
303	RDG0521	REVERSE GEAR	[M]
304	RDG0522	GENEVA GEAR	[M]
305	RDG0523	HOR RELAY GEAR	[M]
306	RDG0525	CROWN GEAR	[M]
307	RDG0526	TRAY RELAY GEAR	[M]
308	RDG0527	UD PULLEY GEAR	[M]
309	RDG0528	HOR SPEED DOWN GEAR	[M]
310	RDG0529	HOR SPEED DOWN GEAR	[M]
311	RDG0530	HOR DRIVE GEAR	[M]
312	RDG0531	LOAD RELAY GEAR	[M]
313	RDG0532	LOAD GEAR	[M]
314	RDG0535	UD SPEED DOWN GEAR	[M]
315	RDG0534	UD SPEED DOWN GEAR	[M]
316	RDG0536	SELECT SPEED DOWN GEAR	[M]
317	RDG0537-1	SELECT DRIVE GEAR	[M]
318	RDG0538-1	CHANGE GEAR	[M]
319	RDG0539	UD DRIVE GEAR	[M]
320	RDG0540	TIMING GEAR	[M]
321	RDG0542	TRAY GEAR	[M]
322	RDG0543	HOR PULLEY GEAR	[M]
323	RDV0068	HOR BELT	[M]
324	RDV0069	UD BELT	[M]
325	RME0344-1	UD ASSIST SPRING	[M]
326	RME0361	TRAY STOPPER SPRING	[M]
327	RME0363-1	LIMIT SPRING	[M]
328	RME0368-1	MAIN GEAR SPRING	[M]
329	RML0616	SPEED UP LOCK	[M]
330	RML0617-2	SEPARATE LEVER 1	[M]
331	RML0618-1	SEPARATE LEVER 2	[M]
332	RML0619-1	UD. CONNECTION LEVER	[M]
333	RML0620	TRV.CONNECT LEVER	[M]
334	RML0621-2	TRAY CHG. LEVER	[M]
335	RML0622-1	TRAY LOCK LEVER	[M]
336	RML0623	OPEN SW. LEVER	[M]
337	RML0624	CHG. LEVER	[M]
338	RML0637	TRAY STOPPER	[M]
339	RMM0239-1	UD.RACK [L]	[M]
340	RMM0240	UD.RACK [R]	[M]
341	RMM0241-1	TRV.SLIDE PLATE [L]	[M]
342	RMM0242-1	TRV.SLIDE PLATE [R]	[M]
343	RMM0243	SELECT RACK	[M]
344	RMM0244	SELECT GUIDE	[M]
345	RMQ1051-2	PITCH PLATE	[M]
346	RMQ1209	UD BASE	[M]
347	RMQ1056	TRAY GUIDE [L]	[M]
348	RMQ1057	TRAY GUIDE [R]	[M]
349	RMQ1058	GEAR HOLDER	[M]
350	RMQ1059-2	TOP COVER	[M]
351	RMQ1060	CLAMP GUIDE	[M]
352	RMQ1061	TG.PLATE	[M]
353	RMR1531-X	FIXTURE	[M]
354	RMR1446-X	CLAMPER	[M]
355	RMR1407A-H1	TRAY NO. 1	[M]
356	RMR1407B-H1	TRAY NO. 2	[M]
357	RMR1407C-H1	TRAY NO. 3	[M]
358	RMR1407D-H1	TRAY NO. 4	[M]
359	RMR1407E-H1	TRAY NO. 5	[M]
360	RFKNAPM77MDS	MECHA BASE ASS’Y	[M]
361	RMS0762	TRAY GEAR SHAFT	[M]
362	RXG0053	TRAY DRIVE GEAR ASSY	[M]
363	RXQ0803	LOADING MOTOR ASSY	[M]
364	RXQ0804	UD MOTOR ASSY	[M]
365	XTB3+10JFJ	SCREW	[M]
366	RMC0472	TRAY SPRING	[M]
367	XTV2+6G	SCREW	[M]
368	XWG6FFY	BACK YOKE	[M]
369	JSM0048	MAGNET	[M]
370	RMC0387	SUPPORT SPRING	[M]
371	RHD26045-L	SCREW	[M]
401	RAE2012Z-S	DU69U BLK AFTER ALIG	[M]
402	RMG0598-A	FLOATING RUBBER	[M]
403	RMG0617-H	CUSHION RUBBER A	[M]
404	RMG0618-H	CUSHION RUBBER B	[M]
405	RMR1596-X2	MIDDLE CHASSIS	[M]
406	RXQ1252	DVD OPU SUB ASS’Y	[M]
408	RMS0789	FIXED PIN	[M]

26.3. Cabinet

26.3.1. Cabinet Parts Location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(DECK P.C.B)
CP1902
WR1903
CN1305
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CP1301
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(TAPE EJECT
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CN603
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(PANEL P.C.B)
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To CN603
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(SWITCH P.C.B)
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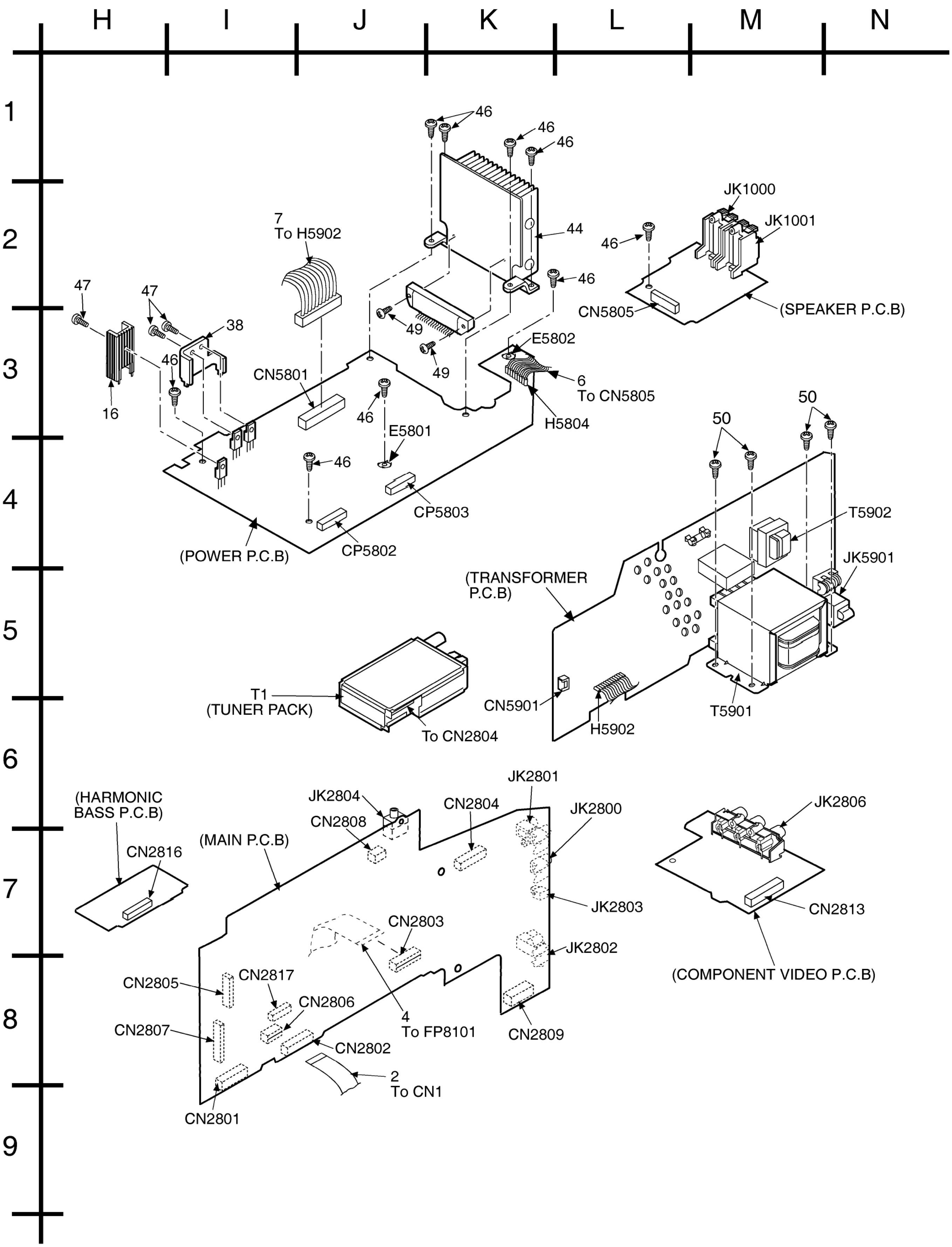
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H5804
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E5801
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CP5803
CP5802
(POWER P.C.B)
JK1000
JK1001
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CN5805
(SPEAKER P.C.B)
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JK5901
(TRANSFORMER P.C.B)
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(TUNER PACK)
To CN2804
CN5901
H5902
T5901
(HARMONIC BASS P.C.B)
CN2816
JK2804
CN2808
(MAIN P.C.B)
CN2804
JK2801
JK2800
JK2803
CN2803
JK2802
CN2805
CN2817
CN2806
CN2807
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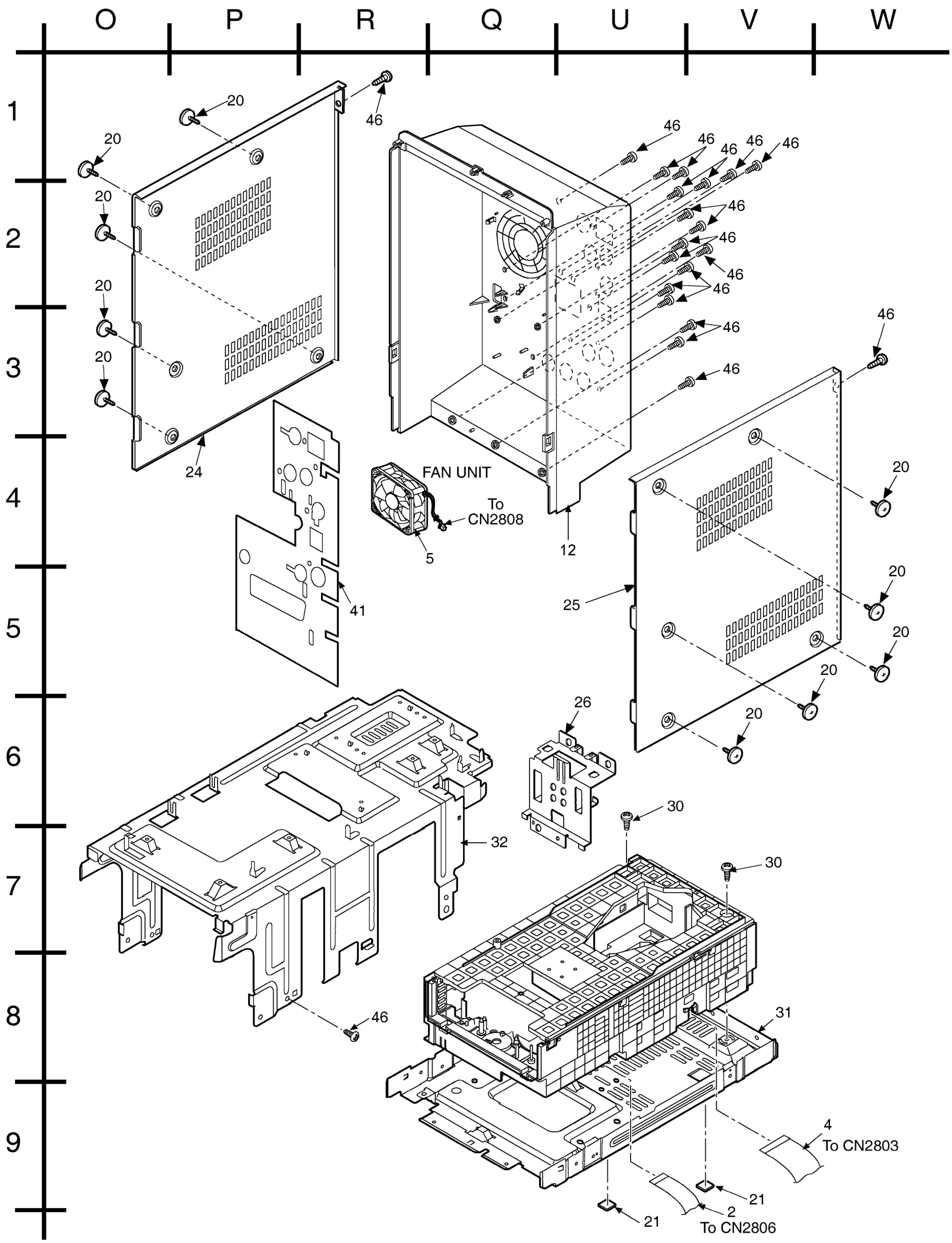
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26.3.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEV0078	17P FFC	[M]
2	REEV0086	FFC WIRE	[M]
3	REEX0325	21P FFC (DECK)	[M]
4	REEX0327	FFC WIRE	[M]
5	REM0094A	COOLING FAN	[M]
6	REXX0399	8P WIRE	[M]
7	REXX0400	12P WIRE	[M]
8	RGL0675-Q	LIGHTING BAR	[M]
9	RGL0676-Q	VOLUME RING LIGHT	[M]
10	RYQ0545C-S	CENTER STAGE UNIT	[M]
11	RGU2280-S	CASS EJECT BUTTON	[M]
12	RFKHAPM91DPC	REAR CABINET ASS'Y	[M]PC
12	RKSV0032-H	REAR CABINET	[M]P
13	RFKGAPM91DPS	FRONT PANEL ASS'Y	[M]
13-1	RKW0784A-S	FL WINDOW	[M]
14	RGU2380A-S	5 DISC & ETC BUTTON	[M]
15	RGUV0129-S	POWER BUTTON UNIT	[M]
16	TUC25628	SMALL HEATSINK	[M]
17	RGW0415-S	VOLUME KNOB	[M]
18	RHD26046-L	SCREW	[M]
19	RHD26049	SCREW	[M]
20	RHD30007-1SJ	SCREW	[M]
21	RHGV0008	LEG CUSHION	[M]
22	RKF0688-S	CASS HOLDER/LID	[M]
23	RKM0529-S	TOP CABINET	[M]
24	RKM0530A-S	SIDE PANEL (L)	[M]
25	RKM0531A-S	SIDE PANEL (R)	[M]
26	RMAV0029	VOLTAGE SELECTOR BRACKET	[M]
27	RMB0448-J	LOCK ROD SPRING	[M]
28	RMB0780	CASS OPEN SPRING	[M]
29	RMB0826	EARTH SPRING	[M]
30	RHD30115	SCREW	[M]
31	RMK0595	BOTTOM CHASSIS	[M]
32	RMKV0037	INNER CHASSIS	[M]
33	RMM0163-1	CASSETTE LOCK ROD	[M]
34	RMN0780	CD LID SUPPORT	[M]
35	RMN0818	LED HOLDER LIGHTING	[M]
36	RMN0819	LED HOLDER INDICATOR	[M]
37	RMNV0061	FL HOLDER	[M]
38	RMY0260	HEAT SINK	[M]
39	RSC0761	EARTH PLATE (DVD LID)	[M]
40	RSCV0062	FL REAR SHIELD	[M]
41	RSCV0063	REAR SHIELD PLATE	[M]
42	RUS757ZAA	CASS HALF SPRING	[M]
43	RXGX0003	DAMPER GEAR UNIT	[M]
44	RXXV0037	HEAT SINK UNIT	[M]
45	RYF0755A-S	DVD LID UNIT	[M]
45-1	RMB0827	DVD SPRING	[M]
46	XTB3+10JFZ	SCREW	[M]
47	XTB3+8JFZ	SCREW	[M]
48	XTV3+10GFJ-M	SCREW	[M]
49	XTW3+15TFJ	SCREW	[M]
50	XTWS3+6TFJ	SCREW	[M]
51	REX1216Y	3P WIRE	[M]

26.4. Electrical Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REPV0057A	DVD MODULE P.C.B.	[M] (RTL)
	REPV0054B	MAIN P.C.B. / COMPONENT VIDEO P.C.B.	[M] (RTL)
	REPV0053A	PANEL P.C.B. / HARMONIC BASS P.C.B.	[M] (RTL)
	REPV0052B	TRANSFORMER P.C.B. / POWER P.C.B. / SPEAKER P.C.B.	[M] (RTL)
	REPX0411E	DECK P.C.B. / TAPE EJECT P.C.B.	[M] (RTL)
	REPX0321H	DECK MECHANISM P.C.B.	[M] (RTL)
	REP3569A	CD LOADING P.C.B.	[M] (RTL)
	REPV0064A	SWITCH P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC11	C0GAG0000007	IC UP/DOWN MOTOR DRIVE	[M]
IC21	C0GAG0000007	IC LOADING MOTOR DRIVE	[M]
IC500	RSN315H41-P	IC POWER AMP HIC	[M]
IC601	C0HBB0000039	IC FL DISPLAY	[M]
IC971	CNB13030R2AU	IC PHOTO INTERUPTOR	[M]
IC1000	C1AA00000612	IC ANALOG SWITCH	[M]
IC1001	AN7326K	IC P/B REC AMP	[M]
IC2801	C2CBJG000573	IC MICRO PROCESSOR	[M]
IC2803	C0DBAJG00002	IC REGULATOR	[M]
IC2804	C0DBAJG00002	IC REGULATOR	[M]
IC2805	C0DBEFG00003	IC REGULATOR	[M]
IC2806	C0DBZHG00016	IC REGULATOR	[M]
IC2807	C0DBZHE00011	IC REGULATOR	[M]
IC2808	C9ZB00000431	IC VIDEO	[M]
IC2812	C1BB00000822	IC ASP	[M]
IC2813	C0AABB000085	IC OP AMP	[M]
IC2814	KIA4558FEL	IC OP AMP	[M]
IC2816	C0ABBB000067	IC OP AMP	[M]
IC2817	C0ABBB000067	IC OP AMP	[M]
IC2818	C0ABBB000067	IC OP AMP	[M]
IC8001	MN2DS0003APH	IC DV2.1	[M]
IC8051	C3ABPG000133	IC 64 SDRAM	[M]
IC8111	C0CBCBD00018	IC 3.3 REGULATOR	[M]
IC8251	C0GBG0000048	IC DRIVER	[M]
IC8420	C0FBBK000049	IC 2 CHANNEL DAC	[M]
IC8601	C0EBE0000384	IC RESET	[M]
IC8606	C0EBA0000031	IC RESET	[M]
IC8651	RFKWMH82H160	IC 16M FLASH ROM	[SPG]
IC8691	C0JBAA000346	IC AND GATE LOGIC	[M]
IC8695	C0JBAA000346	IC AND GATE LOGIC	[M]
		TRANSISTORS	
Q1	B3NAA0000068	TRANSISTOR	[M]
Q601	B1ABCF000131	TRANSISTOR	[M]
Q602	B1ABCF000131	TRANSISTOR	[M]
Q603	B1ABCF000131	TRANSISTOR	[M]
Q611	B1GBCFJN0021	TRANSISTOR	[M]
Q680	KRC119STA	TRANSISTOR	[M]
Q1101	B1ABGC000005	TRANSISTOR	[M]
Q1201	B1ABGC000005	TRANSISTOR	[M]
Q1302	B1GDCFJJ0002	TRANSISTOR	[M]
Q1303	B1GBCFGH0001	TRANSISTOR	[M]
Q1304	B1GDCFGH0002	TRANSISTOR	[M]
Q1309	B1AAGC000006	TRANSISTOR	[M]
Q1310	B1AAGC000006	TRANSISTOR	[M]
Q1312	B1ABCF000011	TRANSISTOR	[M]
Q1314	B1GDCFGH0002	TRANSISTOR	[M]
Q1315	KTA12710YTA	TRANSISTOR	[M]
Q1316	2SD09650RA	TRANSISTOR	[M]
Q1317	B1ABGC000005	TRANSISTOR	[M]
Q2101	B1ABCF000131	TRANSISTOR	[M]
Q2102	B1ABGC000005	TRANSISTOR	[M]
Q2103	B1ABGC000005	TRANSISTOR	[M]
Q2201	B1ABCF000131	TRANSISTOR	[M]
Q2202	B1ABGC000005	TRANSISTOR	[M]
Q2203	B1ABGC000005	TRANSISTOR	[M]
Q2204	B1ABGC000005	TRANSISTOR	[M]
Q2205	B1ABGC000005	TRANSISTOR	[M]
Q2803	B1GBCFLL0028	TRANSISTOR	[M]
Q2805	UNR221200L	TRANSISTOR	[M]
Q2806	2SB0621AHA	TRANSISTOR	[M]
Q2807	B1ABCF000131	TRANSISTOR	[M]
Q2808	B1ABCF000131	TRANSISTOR	[M]
Q2809	B1ABCF000131	TRANSISTOR	[M]
Q2810	B1CABA000002	TRANSISTOR	[M]
Q2811	B1CABA000002	TRANSISTOR	[M]
Q2812	B1GCCFJJ0015	TRANSISTOR	[M]
Q2813	B1GBCFJJ0039	TRANSISTOR	[M]
Q2814	KTA1504GRTA	TRANSISTOR	[M]
Q2815	KTA1504GRTA	TRANSISTOR	[M]
Q2816	B1ABGC000005	TRANSISTOR	[M]
Q2817	B1GBCFGG0023	TRANSISTOR	[M]
Q2818	B1GBCFGG0023	TRANSISTOR	[M]
Q2826	B1GBCFJJ0039	TRANSISTOR	[M]
Q2827	KTC32030YTA	TRANSISTOR	[M]
Q3000	B1ABCF000131	TRANSISTOR	[M]
Q3001	B1ABCF000131	TRANSISTOR	[M]
Q3002	B1GDCFGG0021	TRANSISTOR	[M]
Q3003	B1GDCFGG0021	TRANSISTOR	[M]
Q5101	KTC3199GRTA	TRANSISTOR	[M]
Q5102	KTC3199GRTA	TRANSISTOR	[M]
Q5201	KTC3199GRTA	TRANSISTOR	[M]
Q5202	KTC3199GRTA	TRANSISTOR	[M]
Q5801	KTC2026	TRANSISTOR	[M]
Q5802	B1BCCG000021	TRANSISTOR	[M]
Q5803	KTC3199GRTA	TRANSISTOR	[M]
Q5804	B1BCCG000021	TRANSISTOR	[M]
Q5805	KRA110MTA	TRANSISTOR	[M]
Q5807	B1ACCF000039	TRANSISTOR	[M]
Q5808	KTC3199GRTA	TRANSISTOR	[M]
Q5809	KTC3199GRTA	TRANSISTOR	[M]
Q5810	B1AAGC000007	TRANSISTOR	[M]
Q5901	2SB0621AHA	TRANSISTOR	[M]
Q5902	B1AAGC000007	TRANSISTOR	[M]
Q5903	KRC102MTA	TRANSISTOR	[M]
Q5904	2SD21370PA	TRANSISTOR	[M]
Q8550	B1ADHG000003	TRANSISTOR	[M]
Q8551	B1ABDF000018	TRANSISTOR	[M]
Q8552	2SB09700RL	TRANSISTOR	[M]
Q8560	B1ABDF000018	TRANSISTOR	[M]
Q8561	B1ABDF000018	TRANSISTOR	[M]
Q8562	2SB09700RL	TRANSISTOR	[M]
Q8606	B1ABDF000018	TRANSISTOR	[M]
Q8607	B1ABDF000018	TRANSISTOR	[M]
QR8111	UNR521400L	TRANSISTOR	[M]
QR8112	UNR521400L	TRANSISTOR	[M]
QR8420	B1GBCFJJ0047	TRANSISTOR	[M]
QR8571	B1GDCFEC0001	TRANSISTOR	[M]
		DIODES	
D601	B0BC6R100010	DIODE	[M]
D611	B3AEA0000058	DIODE	[M]
D612	B3AEA0000058	DIODE	[M]
D616	B3AAA0000487	DIODE	[M]
D619	B0BC8R100004	DIODE	[M]
D620	B0BC6R100010	DIODE	[M]
D680	B3ACA0000261	DIODE	[M]
D971	MA2C16500E	DIODE	[M]
D1301	B0ACCK000005	DIODE	[M]
D2101	MA2J72800L	DIODE	[M]
D2201	MA2J72800L	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D2801	B0ACCE000003	DIODE	[M]
D2802	B0ACCE000003	DIODE	[M]
D2803	B0ACCK000005	DIODE	[M]
D2804	B0JCPC000004	DIODE	[M]
D2805	B0BC7R500001	DIODE	[M]
D2806	B0JCPC000004	DIODE	[M]
D2807	B0BC7R500001	DIODE	[M]
D2809	B0ACCK000005	DIODE	[M]
D2810	B0ACCK000005	DIODE	[M]
D2811	B0ACCK000005	DIODE	[M]
D2812	B0ACCE000003	DIODE	[M]
D2814	B0ACCK000005	DIODE	[M]
D2815	B0BC5R600003	DIODE	[M]
D3000	B0JACE000003	DIODE	[M]
D3001	B0JACE000003	DIODE	[M]
D3002	B0JACE000003	DIODE	[M]
D5801	B0FBAM000009	DIODE	[M]
D5802	B0EAKM000117	DIODE	[M]
D5803	B0AACK000004	DIODE	[M]
D5804	B0AACK000004	DIODE	[M]
D5805	B0AACK000004	DIODE	[M]
D5806	B0AACK000004	DIODE	[M]
D5808	B0BA9R600002	DIODE	[M]
D5812	B0BA9R600002	DIODE	[M]
D5813	B0AACK000004	DIODE	[M]
D5814	B0AACK000004	DIODE	[M]
D5815	B0EAKM000117	DIODE	[M]
D5816	B0EAKM000117	DIODE	[M]
D5817	B0EAKM000117	DIODE	[M]
D5818	MTZJ15BTA	DIODE	[M]
D5819	B0AACK000004	DIODE	[M]
D5901	B0EAKM000117	DIODE	[M]
D5902	B0EAKM000117	DIODE	[M]
D5903	B0BA03100002	DIODE	[M]
D5904	B0EAKM000117	DIODE	[M]
D5905	B0EAKM000117	DIODE	[M]
D5906	B0EAKM000117	DIODE	[M]
D5907	B0EAKM000117	DIODE	[M]
D5908	B0AACK000004	DIODE	[M]
D5909	B0EAKM000117	DIODE	[M]
D5910	B0EAKM000117	DIODE	[M]
D5911	B0EAKM000117	DIODE	[M]
D5912	B0EAKM000117	DIODE	[M]
D5913	B0BA6R600008	DIODE	[M]
D5917	B0EAKM000117	DIODE	[M]
D8231	MA2J11100L	DIODE	[M]
D8550	MA2J11100L	DIODE	[M]
D8571	MA2J72800L	DIODE	[M]
		CHIP INDUCTORS	
LB8001	J0JHC0000045	CHIP INDUCTOR	[M]
LB8002	J0JHC0000045	CHIP INDUCTOR	[M]
LB8301	J0JCC0000119	FERRITE BEAD	[M]
LB8302	J0JCC0000119	FERRITE BEAD	[M]
LB8303	J0JCC0000119	FERRITE BEAD	[M]
LB8304	J0JCC0000119	FERRITE BEAD	[M]
LB8305	J0JCC0000119	FERRITE BEAD	[M]
LB8401	ERJ2GEJ151X	CHIP RESISTOR	[M]
LB8421	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8422	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8423	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8424	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8491	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8502	J0JHC0000045	CHIP INDUCTOR	[M]
LB8503	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8504	J0JCC0000119	FERRITE BEAD	[M]
LB8505	J0JCC0000119	FERRITE BEAD	[M]
LB8507	J0JCC0000119	FERRITE BEAD	[M]
LB8511	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8512	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8513	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8514	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8690	J0JCC0000091	FILTER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
LB8691	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8692	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8693	ERJ2GEJ101X	CHIP RESISTOR	[M]
		VARIABLE RESISTORS	
VR601	EVEKE2F3024B	VR VOLUME JOG	[M]
		SWITCHES	
S1	K0L1BA000065	SW STOCK	[M]
S2	K0L1BA000065	SW PLAY	[M]
S3	K0L1BA000078	SW BOTTOM	[M]
S4	RSH1A045-1A	SW OPEN	[M]
S5	K0L1BA000065	SW CHANGE	[M]
S601	K0F111A00472	SW BASS/TREBLE	[M]
S602	K0F111A00472	SW REW	[M]
S603	K0F111A00472	SW DVD/CD	[M]
S604	K0F111A00472	SW FWD	[M]
S605	K0F111A00472	SW TAPE	[M]
S606	K0F111A00472	SW STOP	[M]
S607	EVQ21405RJ	SW DISC 5	[M]
S608	EVQ21405RJ	SW DISC_CHANGE	[M]
S609	EVQ21405RJ	SW OPEN/CLOSE	[M]
S610	EVQ21405RJ	SW H. BASS	[M]
S611	EVQ21405RJ	SW TUNER/AUX	[M]
S612	EVQ21405RJ	SW DISC_CHECK	[M]
S613	EVQ21405RJ	SW ADV_SURROUND	[M]
S613	K0F111A00472	SW DOWN	[M]
S614	K0F111A00472	SW UP	[M]
S616	EVQ21405RJ	SW POWER	[M]
S617	EVQ21405RJ	SW REC	[M]
S618	EVQ21405RJ	SW DISC 1	[M]
S619	EVQ21405RJ	SW DISC 2	[M]
S620	EVQ21405RJ	SW DISC 3	[M]
S621	EVQ21405RJ	SW DISC 4	[M]
S971	RSH1A018-3U	SW MODE	[M]
S972	RSH1A019-2U	SW HALF	[M]
S973	RSH1A019-2U	SW CR02	[M]
S975	RSH1A019-2U	SW RECINH_F	[M]
S1901	EVQ21405RJ	SW TAPE EJECT	[M]
		CONNECTORS	
CN1	K1MN14B00066	14P FFC CONNECTOR	[M]
CN602	K1MN17B00032	17P CONNECTOR	[M]
CN603	K1KA03B00046	3P CONNECTOR	[M]
CN1305	K1MN21B00010	21P FFC CONNECTOR	[M]
CN2801	K1KB12B00036	12P CONNECTOR	[M]
CN2802	K1KB12B00036	12P CONNECTOR	[M]
CN2803	K1MN50A00008	50P CONNECTOR	[M]
CN2804	K1KA10A00263	10P CONNECTOR	[M]
CN2805	K1MN17A00040	17P FFC CONNECTOR	[M]
CN2806	K1MN14C00004	14P FFC CONNECTOR	[M]
CN2807	K1MN21A00031	21P CONNECTOR	[M]
CN2808	K1KA02A00008	2P FAN CONNECTOR	[M]
CN2809	K1KA12A00184	12P CONNECTOR	[M]
CN2813	K1KB12B00036	12P CONNECTOR	[M]
CN2816	RJT100W09	9P CONNECTOR	[M]
CN2817	RJU100W09	9P CONNECTOR	[M]
CN5801	RJT119W12V	12P CONNECTOR	[M]
CN5805	RJT119W08V	8P CONNECTOR	[M]
CN5901	K1KA04B00132	4P CONNECTOR	[M]
CP1301	K1MN05A00019	5P CONNECTOR	[M]
CP1902	K1KA09B00058	9P CONNECTOR	[M]
CP5802	K1KA12A00184	12P CONNECTOR	[M]
CP5803	K1KA12A00184	12P CONNECTOR	[M]
CS971	RJU071H09M1	9P CONNECTOR	[M]
FP8101	K1MN50B00031	50P CONNECTOR	[M]
FP8201	K1MN06B00080	6P CONNECTOR	[M]
FP8501	K1MN26B00094	26P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
HW601	K1ZZ00000832	CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1301	7L1A62N	BIAS OCS COIL	[M]
L1302	RLQB470JTD-D	RF CHOKE COIL	[M]
L2101	J0JBC0000019	CHIP INDUCTOR	[M]
L2201	J0JBC0000019	CHIP INDUCTOR	[M]
L2801	G0C3R3JA0027	COIL	[M]
L2802	G0A101ZA0028	CHOKE COIL	[M]
L2803	G0A200D00002	RF CHOKE COIL	[M]
L2804	G0A200D00002	RF CHOKE COIL	[M]
L2805	G0A200D00002	RF CHOKE COIL	[M]
L2806	G0A101ZA0028	CHOKE COIL	[M]
L2807	G0A200D00002	RF CHOKE COIL	[M]
L2808	G0C4R7JA0027	COIL	[M]
L2809	ELESN220JA	CHOKE COIL	[M]
L2810	J0JBC0000015	CHIP INDUCTOR	[M]
L2811	J0JBC0000015	CHIP INDUCTOR	[M]
L2812	J0JBC0000015	CHIP INDUCTOR	[M]
L2813	J0JCC0000186	CHIP COIL	[M]
L2814	J0JBC0000015	CHIP INDUCTOR	[M]
L2815	J0JBC0000015	CHIP INDUCTOR	[M]
L2817	G0C101JA0030	COIL	[M]
L2820	G0C470JA0030	RF CHOKE COIL	[M]
L2821	ELJFC2R2KF	CHIP COIL	[M]
L2822	ELJFC2R2KF	CHIP COIL	[M]
L2823	ELJFC2R2KF	CHIP COIL	[M]
L2824	G0C4R7JA0027	COIL	[M]
L2829	J0JCC0000120	COIL	[M]
L2830	J0JCC0000120	COIL	[M]
L2831	J0JCC0000120	COIL	[M]
L2840	G0A200D00002	RF CHOKE COIL	[M]
L2911	ELJFCR39KF	CHIP COIL	[M]
L5901	G0B371HA0005	LINE FILTER	[M] ⚠
L8201	G1C100K00020	CHIP INDUCTOR	[M]
L8202	J0JCC0000079	CHIP INDUCTOR	[M]
L8301	G1C100KA0055	CHIP INDUCTOR	[M]
L8302	J0JCC0000079	CHIP INDUCTOR	[M]
L8550	G1C100KA0055	CHIP INDUCTOR	[M]
T1	ENG06810QF	TUNER	[M]
T5901	G4C6AFD00008	POWER TRANSFORMER	[M] ⚠
T5902	G4C2AAD00004	BABY TRANSFORMER	[M] ⚠
		COMPONENT COMBINATIONS	
Z602	B3RAD0000051	REMOTE SENSOR	[M]
Z5901	ERZVA5Z471	ZENER	[M] ⚠
		RELAY	
RL5901	K6B1AEA00003	POWER RELAY	[M] ⚠
		OSCILLATORS	
X2801	H0A327200073	CRYSTAL OSCILLATOR	[M]
X2802	H2B100500004	CERAMIC RESONATOR	[M]
X8621	H0J270500085	CRYSTAL	[M]
		DISPLAY TUBES	
FL601	A2BD00000112	FL DISPLAY	[M]
FL8101	F1H0J1050022	CHIP CAPACITOR	[M]
FL8102	F1H0J1050022	CHIP CAPACITOR	[M]
FL8103	F1H0J1050022	CHIP CAPACITOR	[M]
FL8104	F1J1E1040022	CHIP CAPACITOR	[M]
		FUSE	
F1	K5D202APA008	FUSE	[M] ⚠
		FUSE HOLDERS	
FC1	EYF52BCY	FUSE CLIP	[M]
FC2	EYF52BCY	FUSE CLIP	[M]
		FUSE PROTECTORS	
FP5801	K5G400A00001	RESISTOR	[M] ⚠
FP5901	K5G402A00025	FUSE PROTECTOR	[M] ⚠
FP5902	K5G102A00023	FUSE PROTECTOR	[M] ⚠
		HOLDERS	
H5804	K1YF08000003	8P WIRE HOLDER	[M]
H5902	K1YF12000002	12P WIRE HOLDER	[M]
		JACKS	
JK1000	K4BC04B00060	JK RED/BLACK SPEAKER	[M]
JK1001	K4BC04B00059	JK BLUE/HOAR SPEAKER	[M]
JK2800	K4BK01B00008	JK 1P RCA	[M]
JK2801	K4BK02B00007	JK AUX-IN	[M]
JK2802	K1U208B00002	JK	[M]
JK2803	K7AABB000004	JK OPTICAL JACK	[M]
JK2804	K2HC103B0049	JK HEADPHONE	[M]
JK2806	K2HA306B0068	JK	[M]
JK5901	K2AB2B000002	JK AC INLET	[M] ⚠
		EARTH TERMINALS	
E601	K9ZZ00000424	EARTH TERMINAL	[M]
E602	K9ZZ00000424	EARTH TERMINAL	[M]
E5801	SNE1004-2	EARTH TERMINAL	[M]
E5802	SNE1004-2	EARTH TERMINAL	[M]
		CHIP RESISTORS	
W71	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W72	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W73	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W74	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W81	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W82	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W83	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W84	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W85	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W86	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W87	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W3000	ERJ8GEY0R00V	CHIP RESISTOR	[M]
W3001	ERJ8GEY0R00V	CHIP RESISTOR	[M]
W3002	ERJ8GEY0R00V	CHIP RESISTOR	[M]
W3003	ERJ8GEY0R00V	CHIP RESISTOR	[M]
W3004	ERJ8GEY0R00V	CHIP RESISTOR	[M]
W3005	ERJ8GEY0R00V	CHIP RESISTOR	[M]
		RESISTORS	
R601	ERJ3GEYJ103V	10K 1/16W	[M]
R602	D0GB223JA041	22K 1/16W	[M]
R603	ERJ3GEYJ122V	1.2K 1/16W	[M]
R604	D0GB182JA007	1.8K 1/16W	[M]
R605	D0GB222JA041	2.2K 1/16W	[M]
R606	D0GB272JA007	2.7K 1/16W	[M]
R607	ERJ3GEYJ102V	1K 1/16W	[M]
R608	ERJ3GEYJ102V	1K 1/16W	[M]
R609	ERJ3GEYJ122V	1.2K 1/16W	[M]
R612	ERJ3GEYJ102V	1K 1/16W	[M]
R613	ERJ3GEYJ102V	1K 1/16W	[M]
R616	D0GB472JA041	4.7K 1/16W	[M]
R617	D0GB562JA007	5.6K 1/16W	[M]
R618	D0GB101JA007	100 1/16W	[M]
R619	D0GB470JA008	47 1/16W	[M]
R620	ERJ3GEYJ682V	6.8K 1/16W	[M]
R621	D0GB151JA007	150 1/16W	[M]
R622	D0GB151JA007	150 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R623	D0GB104JA007	100K 1/16W	[M]
R624	D0GB104JA007	100K 1/16W	[M]
R625	ERJ3GEYJ102V	1K 1/16W	[M]
R626	ERJ3GEYJ102V	1K 1/16W	[M]
R627	ERJ3GEYJ102V	1K 1/16W	[M]
R628	ERJ3GEYJ102V	1K 1/16W	[M]
R629	ERJ3GEYJ103V	10K 1/16W	[M]
R630	ERJ3GEYJ103V	10K 1/16W	[M]
R631	ERJ3GEYJ561V	560 1/16W	[M]
R632	ERJ3GEYJ561V	560 1/16W	[M]
R633	ERJ3GEYJ561V	560 1/16W	[M]
R634	ERJ3GEYJ561V	560 1/16W	[M]
R643	ERJ3GEYJ102V	1K 1/16W	[M]
R644	D0GB821JA007	820 1/16W	[M]
R645	D0GB472JA041	4.7K 1/16W	[M]
R652	D0GB333JA007	33K 1/16W	[M]
R653	ERJ3GEYJ102V	1K 1/16W	[M]
R661	D0GB182JA007	1.8K 1/16W	[M]
R662	D0GB222JA041	2.2K 1/16W	[M]
R663	D0GB472JA041	4.7K 1/16W	[M]
R664	D0GB272JA007	2.7K 1/16W	[M]
R665	ERJ3GEYJ682V	6.8K 1/16W	[M]
R680	D0GB271JA007	270 1/16W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R1061	ERJ3GEY0R00V	0 1/16W	[M]
R1063	ERJ3GEY0R00V	0 1/16W	[M]
R1065	F1H1H101A230	100 1/8W	[M]
R1101	D0GB330JA007	33 1/16W	[M]
R1102	D0GB152JA007	1.5K 1/16W	[M]
R1103	D0GB183JA007	18K 1/16W	[M]
R1104	ERJ3GEYJ103V	10K 1/16W	[M]
R1105	D0GB222JA041	2.2K 1/16W	[M]
R1106	D0GB104JA007	100K 1/16W	[M]
R1107	ERJ3GEYJ102V	1K 1/16W	[M]
R1109	ERJ3GEYJ102V	1K 1/16W	[M]
R1110	D0GB333JA007	33K 1/16W	[M]
R1201	D0GB330JA007	33 1/16W	[M]
R1202	D0GB152JA007	1.5K 1/16W	[M]
R1203	D0GB183JA007	18K 1/16W	[M]
R1204	ERJ3GEYJ103V	10K 1/16W	[M]
R1205	D0GB222JA041	2.2K 1/16W	[M]
R1206	D0GB104JA007	100K 1/16W	[M]
R1207	ERJ3GEYJ102V	1K 1/16W	[M]
R1209	ERJ3GEYJ102V	1K 1/16W	[M]
R1210	D0GB333JA007	33K 1/16W	[M]
R1302	D0GB471JA041	470 1/16W	[M]
R1303	ERJ3GEYJ475V	4.7M 1/16W	[M]
R1304	D0GB223JA041	22K 1/16W	[M]
R1305	ERJ3GEYJ103V	10K 1/16W	[M]
R1309	D0AF471JA039	470 1/4W	[M]
R1313	ERJ3GEYJ103V	10K 1/16W	[M]
R1314	ERJ3GEYJ102V	1K 1/16W	[M]
R1318	ERJ3GEYJ103V	10K 1/16W	[M]
R1327	D0GB472JA041	4.7K 1/16W	[M]
R1328	D0GB153JA007	15K 1/16W	[M]
R1329	D0GB472JA041	4.7K 1/16W	[M]
R1330	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1331	ERJ3GEYJ752V	7.5K 1/16W	[M]
R1332	ERJ3GEYJ103V	10K 1/16W	[M]
R1333	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1334	D0GB223JA041	22K 1/16W	[M]
R1335	D0GB152JA007	1.5K 1/16W	[M]
R1337	ERJ3GEYJ103V	10K 1/16W	[M]
R1338	D0GB472JA041	4.7K 1/16W	[M]
R1341	D0GB471JA041	470 1/16W	[M]
R1342	D0GB473JA041	47K 1/16W	[M]
R1343	D0GB332JA007	3.3K 1/16W	[M]
R1344	D0GB273JA007	27K 1/16W	[M]
R1345	ERJ3GEYJ102V	1K 1/16W	[M]
R1371	D0GB223JA041	22K 1/16W	[M]
R1374	D0GB471JA041	470 1/16W	[M]
R1380	ERJ3GEY0R00V	0 1/16W	[M]
R1401	D0GB123JA007	12K 1/16W	[M]
R1402	D0GB274JA007	270K 1/16W	[M]
R1403	ERJ3GEYJ103V	10K 1/16W	[M]
R1404	D0GB223JA041	22K 1/16W	[M]
R1405	ERJ3GEYJ103V	10K 1/16W	[M]
R2001	ERJ3GEYJ103V	10K 1/16W	[M]
R2002	D0GB101JA007	100 1/16W	[M]
R2003	ERJ3GEY0R00V	0 1/16W	[M]
R2005	ERJ3GEYJ102V	1K 1/16W	[M]
R2006	ERJ3GEYJ102V	1K 1/16W	[M]
R2007	ERJ3GEYJ102V	1K 1/16W	[M]
R2008	ERJ3GEYJ103V	10K 1/16W	[M]
R2009	ERJ3GEYJ103V	10K 1/16W	[M]
R2011	D0AF100JA039	10 1/4W	[M]
R2012	ERJ3GEY0R00V	0 1/16W	[M]
R2015	D0GB104JA007	100K 1/16W	[M]
R2016	D0GB104JA007	100K 1/16W	[M]
R2020	ERJ3GEY0R00V	0 1/16W	[M]
R2024	ERJ3GEY0R00V	0 1/16W	[M]
R2033	ERJ3GEY0R00V	0 1/16W	[M]
R2034	ERJ3GEY0R00V	0 1/16W	[M]
R2035	D0GB101JA007	100 1/16W	[M]
R2040	ERJ3GEY0R00V	0 1/16W	[M]
R2050	D0GB823JA007	82K 1/16W	[M]
R2058	ERJ3GEY0R00V	0 1/16W	[M]
R2062	ERJ3GEY0R00V	0 1/16W	[M]
R2070	ERJ3GEY0R00V	0 1/16W	[M]
R2080	ERJ3GEY0R00V	0 1/16W	[M]
R2081	ERJ3GEY0R00V	0 1/16W	[M]
R2101	D0GB823JA007	82K 1/16W	[M]
R2102	D0GB472JA041	4.7K 1/16W	[M]
R2103	D0GB153JA007	15K 1/16W	[M]
R2104	D0GB223JA041	22K 1/16W	[M]
R2105	ERJ3GEY0R00V	0 1/16W	[M]
R2106	ERJ3GEYJ103V	10K 1/16W	[M]
R2107	D0GB392JA007	3.9K 1/16W	[M]
R2108	ERJ3GEYJ102V	1K 1/16W	[M]
R2109	D0GB223JA041	22K 1/16W	[M]
R2111	D0GB182JA007	1.8K 1/16W	[M]
R2112	D0GB392JA007	3.9K 1/16W	[M]
R2113	D0GB472JA041	4.7K 1/16W	[M]
R2114	D0GB123JA007	12K 1/16W	[M]
R2115	D0GB473JA041	47K 1/16W	[M]
R2116	D0GB182JA007	1.8K 1/16W	[M]
R2118	D0GB472JA041	4.7K 1/16W	[M]
R2119	D0GB223JA041	22K 1/16W	[M]
R2120	D0GB393JA041	39K 1/16W	[M]
R2121	ERJ3GEYJ103V	10K 1/16W	[M]
R2122	ERJ3GEYJ102V	1K 1/16W	[M]
R2123	D0GB104JA007	100K 1/16W	[M]
R2124	D0GB472JA041	4.7K 1/16W	[M]
R2125	D0GB123JA007	12K 1/16W	[M]
R2126	ERJ3GEYJ102V	1K 1/16W	[M]
R2127	D0GB104JA007	100K 1/16W	[M]
R2128	ERJ3GEYJ102V	1K 1/16W	[M]
R2129	ERJ3GEYJ561V	560 1/16W	[M]
R2130	ERJ3GEYJ561V	560 1/16W	[M]
R2131	D0GB332JA007	3.3K 1/16W	[M]
R2201	D0GB823JA007	82K 1/16W	[M]
R2202	D0GB472JA041	4.7K 1/16W	[M]
R2203	D0GB153JA007	15K 1/16W	[M]
R2204	D0GB223JA041	22K 1/16W	[M]
R2205	ERJ3GEY0R00V	0 1/16W	[M]
R2206	ERJ3GEYJ103V	10K 1/16W	[M]
R2207	D0GB182JA007	1.8K 1/16W	[M]
R2208	ERJ3GEYJ102V	1K 1/16W	[M]
R2209	D0GB223JA041	22K 1/16W	[M]
R2211	D0GB182JA007	1.8K 1/16W	[M]
R2212	D0GB392JA007	3.9K 1/16W	[M]
R2213	D0GB123JA007	12K 1/16W	[M]
R2214	D0GB473JA041	47K 1/16W	[M]
R2215	D0GB182JA007	1.8K 1/16W	[M]
R2217	D0GB472JA041	4.7K 1/16W	[M]
R2218	D0GB223JA041	22K 1/16W	[M]
R2219	D0GB393JA041	39K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2220	ERJ3GEYJ103V	10K 1/16W	[M]
R2221	ERJ3GEYJ102V	1K 1/16W	[M]
R2222	D0GB104JA007	100K 1/16W	[M]
R2223	D0GB472JA041	4.7K 1/16W	[M]
R2224	D0GB123JA007	12K 1/16W	[M]
R2225	ERJ3GEYJ102V	1K 1/16W	[M]
R2226	D0GB104JA007	100K 1/16W	[M]
R2227	ERJ3GEYJ102V	1K 1/16W	[M]
R2228	ERJ3GEYJ561V	560 1/16W	[M]
R2229	ERJ3GEYJ561V	560 1/16W	[M]
R2230	D0GB332JA007	3.3K 1/16W	[M]
R2240	ERJ3GEYJ102V	1K 1/16W	[M]
R2241	ERJ3GEYJ102V	1K 1/16W	[M]
R2242	ERJ3GEYJ102V	1K 1/16W	[M]
R2243	ERJ3GEYJ102V	1K 1/16W	[M]
R2244	ERJ3GEYJ102V	1K 1/16W	[M]
R2245	ERJ3GEYJ102V	1K 1/16W	[M]
R2246	ERJ3GEY0R00V	0 1/16W	[M]
R2801	ERJ3GEYJ102V	1K 1/16W	[M]
R2802	ERJ3GEYJ102V	1K 1/16W	[M]
R2803	ERJ3GEYJ102V	1K 1/16W	[M]
R2804	ERJ3GEYJ102V	1K 1/16W	[M]
R2805	ERJ3GEYJ102V	1K 1/16W	[M]
R2808	ERJ3GEYJ103V	10K 1/16W	[M]
R2809	ERJ3GEYJ102V	1K 1/16W	[M]
R2810	ERJ3GEYJ103V	10K 1/16W	[M]
R2811	ERJ3GEYJ102V	1K 1/16W	[M]
R2812	ERJ3GEYJ102V	1K 1/16W	[M]
R2813	ERJ3GEYJ102V	1K 1/16W	[M]
R2814	ERJ3GEYJ102V	1K 1/16W	[M]
R2815	ERJ3GEYJ102V	1K 1/16W	[M]
R2816	ERJ3GEYJ102V	1K 1/16W	[M]
R2817	ERJ3GEYJ102V	1K 1/16W	[M]
R2818	ERJ6GEYJ102V	1K 1/10W	[M]
R2819	ERJ3GEYJ102V	1K 1/16W	[M]
R2820	ERJ3GEYJ102V	1K 1/16W	[M]
R2821	ERJ6GEYJ102V	1K 1/10W	[M]
R2822	ERJ3GEYJ103V	10K 1/16W	[M]
R2823	ERJ3GEYJ103V	10K 1/16W	[M]
R2824	D0GB223JA041	22K 1/16W	[M]
R2825	D0GB471JA041	470 1/16W	[M]
R2826	ERJ3GEYJ103V	10K 1/16W	[M]
R2827	D0GB472JA041	4.7K 1/16W	[M]
R2828	ERJ3GEYJ102V	1K 1/16W	[M]
R2829	ERJ3GEYJ102V	1K 1/16W	[M]
R2830	ERJ3GEYJ102V	1K 1/16W	[M]
R2831	ERJ3GEYJ102V	1K 1/16W	[M]
R2833	D0GB331JA007	330 1/16W	[M]
R2834	ERJ3GEYJ102V	1K 1/16W	[M]
R2835	ERJ3GEYJ102V	1K 1/16W	[M]
R2836	ERJ3GEYJ102V	1K 1/16W	[M]
R2837	ERJ3GEYJ102V	1K 1/16W	[M]
R2838	ERJ3GEYJ102V	1K 1/16W	[M]
R2839	ERJ3GEYJ102V	1K 1/16W	[M]
R2840	ERJ3GEYJ102V	1K 1/16W	[M]
R2841	ERJ3GEYJ102V	1K 1/16W	[M]
R2842	ERJ3GEYJ102V	1K 1/16W	[M]
R2843	ERJ3GEYJ102V	1K 1/16W	[M]
R2847	ERJ3GEYJ102V	1K 1/16W	[M]
R2848	ERJ3GEYJ102V	1K 1/16W	[M]
R2849	D0GB101JA007	100 1/16W	[M]
R2850	ERJ3GEYJ102V	1K 1/16W	[M]
R2853	D0GB101JA007	100 1/16W	[M]
R2854	D0GB101JA007	100 1/16W	[M]
R2856	ERJ3GEYJ102V	1K 1/16W	[M]
R2857	ERJ3GEYJ102V	1K 1/16W	[M]
R2858	ERJ3GEYJ102V	1K 1/16W	[M]
R2859	ERJ3GEYJ103V	10K 1/16W	[M]
R2860	ERJ3GEYJ103V	10K 1/16W	[M]
R2861	D0GB473JA041	47K 1/16W	[M]
R2862	ERJ3GEYJ102V	1K 1/16W	[M]
R2863	D0GB101JA007	100 1/16W	[M]
R2864	D0GB101JA007	100 1/16W	[M]
R2865	D0GB101JA007	100 1/16W	[M]
R2866	D0GB101JA007	100 1/16W	[M]
R2867	D0GB101JA007	100 1/16W	[M]
R2868	D0GB101JA007	100 1/16W	[M]
R2869	D0GB101JA007	100 1/16W	[M]
R2870	D0GB101JA007	100 1/16W	[M]
R2871	D0GB101JA007	100 1/16W	[M]
R2872	D0GB101JA007	100 1/16W	[M]
R2873	D0GB821JA007	820 1/16W	[M]
R2874	ERJ3GEYJ103V	10K 1/16W	[M]
R2875	D0GB333JA007	33K 1/16W	[M]
R2876	D0GB101JA007	100 1/16W	[M]
R2877	ERJ3GEYJ102V	1K 1/16W	[M]
R2878	ERJ3GEYJ103V	10K 1/16W	[M]
R2879	ERJ3GEYJ103V	10K 1/16W	[M]
R2880	ERJ3GEYJ103V	10K 1/16W	[M]
R2881	ERJ3GEYJ103V	10K 1/16W	[M]
R2882	ERJ3GEYJ103V	10K 1/16W	[M]
R2883	ERJ3GEYJ103V	10K 1/16W	[M]
R2884	ERJ3GEYJ103V	10K 1/16W	[M]
R2885	ERJ3GEYJ103V	10K 1/16W	[M]
R2886	ERJ3GEYJ103V	10K 1/16W	[M]
R2887	D0GB223JA041	22K 1/16W	[M]
R2888	D0GB223JA041	22K 1/16W	[M]
R2889	D0GB223JA041	22K 1/16W	[M]
R2890	D0GB472JA041	4.7K 1/16W	[M]
R2895	D0GB334JA041	330K 1/16W	[M]
R2896	ERJ3GEYJ106V	10M 1/16W	[M]
R2897	D0GB473JA041	47K 1/16W	[M]
R2898	ERJ3GEYJ681V	680 1/16W	[M]
R2899	D0GB223JA041	22K 1/16W	[M]
R2900	D0GB123JA007	12K 1/16W	[M]
R2901	D0GB101JA007	100 1/16W	[M]
R2902	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2903	D0GB222JA041	2.2K 1/16W	[M]
R2904	D0GB333JA007	33K 1/16W	[M]
R2905	D0GB104JA007	100K 1/16W	[M]
R2906	D0GB222JA041	2.2K 1/16W	[M]
R2907	D0GB222JA041	2.2K 1/16W	[M]
R2908	D0GB391JA041	390 1/16W	[M]
R2909	ERJ3GEYJ102V	1K 1/16W	[M]
R2910	ERJ3GEYJ750V	75 1/16W	[M]
R2912	D0GB222JA041	2.2K 1/16W	[M]
R2913	ERJ3GEYJ750V	75 1/16W	[M]
R2914	ERJ3GEYJ750V	75 1/16W	[M]
R2915	ERJ3GEYJ750V	75 1/16W	[M]
R2916	ERJ3GEYJ750V	75 1/16W	[M]
R2917	ERJ3GEYJ750V	75 1/16W	[M]
R2918	ERJ3GEYJ103V	10K 1/16W	[M]
R2919	ERJ3GEYJ103V	10K 1/16W	[M]
R2920	D0GB563JA007	56K 1/16W	[M]
R2921	D0GB472JA041	4.7K 1/16W	[M]
R2922	ERJ3GEYJ103V	10K 1/16W	[M]
R2923	D0GB562JA007	5.6K 1/16W	[M]
R2924	ERJ3GEYJ824V	820K 1/16W	[M]
R2925	D0GB101JA007	100 1/16W	[M]
R2926	D0GB563JA007	56K 1/16W	[M]
R2927	D0AF270JA039	27 1/4W	[M]
R2928	D0GB563JA007	56K 1/16W	[M]
R2929	ERJ3GEYJ103V	10K 1/16W	[M]
R2930	ERJ3GEYJ824V	820K 1/16W	[M]
R2935	D0GB221JA041	220 1/16W	[M]
R2936	D0GB332JA007	3.3K 1/16W	[M]
R2937	D0GB332JA007	3.3K 1/16W	[M]
R2938	D0GB392JA041	3.9K 1/16W	[M]
R2939	D0GB392JA041	3.9K 1/16W	[M]
R2940	D0GB821JA007	820 1/16W	[M]
R2941	ERJ3GEYJ102V	1K 1/16W	[M]
R2942	D0GB152JA007	1.5K 1/16W	[M]
R2943	ERJ3GEYJ102V	1K 1/16W	[M]
R2944	D0GB123JA007	12K 1/16W	[M]
R2945	D0GB123JA007	12K 1/16W	[M]
R2946	D0GB562JA007	5.6K 1/16W	[M]
R2947	D0GB332JA007	3.3K 1/16W	[M]
R2948	D0GB123JA007	12K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2949	D0GB101JA007	100 1/16W	[M]
R2950	ERJ3GEYJ102V	1K 1/16W	[M]
R2955	D0GB273JA007	27K 1/16W	[M]
R2956	D0GB563JA007	56K 1/16W	[M]
R2957	ERJ3GEYJ103V	10K 1/16W	[M]
R2958	D0GB474JA041	470K 1/16W	[M]
R2959	ERJ3GEYJ102V	1K 1/16W	[M]
R2960	D0GB472JA041	4.7K 1/16W	[M]
R2961	D0GB474JA041	470K 1/16W	[M]
R2988	D0AF270JA039	27 1/4W	[M]
R2992	ERJ3GEYJ820V	82 1/16W	[M]
R2994	D0GB151JA007	150 1/16W	[M]
R3001	ERJ3GEYJ102V	1K 1/16W	[M]
R3002	ERJ3GEYJ102V	1K 1/16W	[M]
R3003	ERJ3GEYJ102V	1K 1/16W	[M]
R3004	ERJ3GEY0R00V	0 1/16W	[M]
R3100	D0GB273JA007	27K 1/16W	[M]
R3101	D0GB273JA007	27K 1/16W	[M]
R3102	ERJ3GEYJ103V	10K 1/16W	[M]
R3103	ERJ3GEYJ102V	1K 1/16W	[M]
R3104	ERJ3GEYJ103V	10K 1/16W	[M]
R3105	D0GB104JA007	100K 1/16W	[M]
R3106	D0GB104JA007	100K 1/16W	[M]
R3107	ERJ3GEYJ102V	1K 1/16W	[M]
R3108	D0GB104JA007	100K 1/16W	[M]
R3109	ERJ3GEYJ103V	10K 1/16W	[M]
R3110	D0GB104JA007	100K 1/16W	[M]
R3111	D0GB104JA007	100K 1/16W	[M]
R3112	D0GB333JA007	33K 1/16W	[M]
R3113	ERJ3GEYJ822V	8.2K 1/16W	[M]
R3114	D0GB104JA007	100K 1/16W	[M]
R3115	D0GB152JA007	1.5K 1/16W	[M]
R3116	ERJ3GEYJ103V	10K 1/16W	[M]
R3117	ERJ3GEYJ103V	10K 1/16W	[M]
R3118	ERJ3GEYJ102V	1K 1/16W	[M]
R3119	ERJ3GEYJ102V	1K 1/16W	[M]
R3120	ERJ3GEYJ103V	10K 1/16W	[M]
R3121	D0GB821JA007	820 1/16W	[M]
R3122	ERJ3GEYJ103V	10K 1/16W	[M]
R3123	ERJ3GEYJ103V	10K 1/16W	[M]
R3124	ERJ3GEYJ103V	10K 1/16W	[M]
R3125	ERJ3GEYJ103V	10K 1/16W	[M]
R3126	D0GB100JA007	10 1/16W	[M]
R3127	D0GB100JA007	10 1/16W	[M]
R3128	ERJ3GEYJ103V	10K 1/16W	[M]
R3129	ERJ3GEYJ103V	10K 1/16W	[M]
R3130	ERJ3GEYJ103V	10K 1/16W	[M]
R3131	D0GB472JA041	4.7K 1/16W	[M]
R3132	ERJ3GEYJ102V	1K 1/16W	[M]
R3133	ERJ3GEYJ103V	10K 1/16W	[M]
R3134	D0GB472JA041	4.7K 1/16W	[M]
R3135	ERJ3GEYJ102V	1K 1/16W	[M]
R3136	ERJ3GEYJ103V	10K 1/16W	[M]
R3137	D0GB472JA041	4.7K 1/16W	[M]
R3138	D0GB472JA041	4.7K 1/16W	[M]
R3139	D0GB472JA041	4.7K 1/16W	[M]
R3140	D0GB472JA041	4.7K 1/16W	[M]
R5101	D0AE221JA048	220 1/4W	[M]
R5102	ERDS2TJ682T	6.8K 1/4W	[M]
R5103	ERDS2TJ682T	6.8K 1/4W	[M]
R5104	ERDS2TJ333T	33K 1/4W	[M]
R5105	D0AE472JA048	4.7K 1/4W	[M]
R5106	ERDS2TJ152T	1.5K 1/4W	[M]
R5107	D0AE153JA048	15K 1/4W	[M]
R5108	D0AE472JA048	4.7K 1/4W	[M]
R5109	ERDS2TJ823T	82K 1/4W	[M]
R5110	D0AE104JA048	100K 1/4W	[M]
R5111	D0AE103JA048	10K 1/4W	[M]
R5113	D0AF100JA039	10 1/4W	[M]
R5151	ERDS2TJ392T	3.9K 1/4W	[M]
R5152	ERDS2TJ183T	18K 1/4W	[M]
R5153	D0AE472JA048	4.7K 1/4W	[M]
R5154	D0AE102JA048	1K 1/4W	[M]
R5155	D0AE153JA048	15K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R5156	D0AE272JA048	2.7K 1/4W	[M]
R5157	ERDS2TJ823T	82K 1/4W	[M]
R5158	ERDS2TJ124T	120K 1/4W	[M]
R5159	D0AE223JA048	22K 1/4W	[M]
R5161	D0AF100JA039	10 1/4W	[M]
R5162	D0AE472JA048	4.7K 1/4W	[M]
R5201	D0AE221JA048	220 1/4W	[M]
R5202	ERDS2TJ682T	6.8K 1/4W	[M]
R5203	ERDS2TJ682T	6.8K 1/4W	[M]
R5204	ERDS2TJ333T	33K 1/4W	[M]
R5205	D0AE472JA048	4.7K 1/4W	[M]
R5206	ERDS2TJ152T	1.5K 1/4W	[M]
R5207	D0AE153JA048	15K 1/4W	[M]
R5208	D0AE472JA048	4.7K 1/4W	[M]
R5209	ERDS2TJ823T	82K 1/4W	[M]
R5210	D0AE104JA048	100K 1/4W	[M]
R5211	D0AE103JA048	10K 1/4W	[M]
R5213	D0AF100JA039	10 1/4W	[M]
R5251	ERDS2TJ392T	3.9K 1/4W	[M]
R5252	ERDS2TJ183T	18K 1/4W	[M]
R5253	D0AE472JA048	4.7K 1/4W	[M]
R5254	D0AE102JA048	1K 1/4W	[M]
R5255	D0AE153JA048	15K 1/4W	[M]
R5256	D0AE272JA048	2.7K 1/4W	[M]
R5257	ERDS2TJ823T	82K 1/4W	[M]
R5258	ERDS2TJ124T	120K 1/4W	[M]
R5259	D0AE223JA048	22K 1/4W	[M]
R5261	D0AF100JA039	10 1/4W	[M]
R5262	D0AE472JA048	4.7K 1/4W	[M]
R5801	ERDS1FVJ2R7T	2.7 1/2W	[M]
R5802	ERDS1FVJ2R7T	2.7 1/2W	[M]
R5803	ERDS2TJ332T	3.3K 1/4W	[M]
R5804	ERDS2TJ151T	150 1/4W	[M]
R5805	ERDS2TJ391T	390 1/4W	[M]
R5806	D0AE272JA048	2.7K 1/4W	[M]
R5807	D0AF270JA039	27 1/4W	[M]
R5808	D0AF150JA039	15 1/4W	[M]
R5809	ERDS2TJ332T	3.3K 1/4W	[M]
R5810	D0AE272JA048	2.7K 1/4W	[M]
R5811	ERDS2TJ2R2T	2.2 1/4W	[M]
R5812	ERDS2TJ2R2T	2.2 1/4W	[M]
R5813	ERDS2TJ2R2T	2.2 1/4W	[M]
R5814	D0AE122JA048	1.2K 1/4W	[M]
R5815	D0AE103JA048	10K 1/4W	[M]
R5818	D0AE331JA048	330 1/4W	[M]
R5822	D0AE473JA048	47K 1/4W	[M]
R5823	D0AE473JA048	47K 1/4W	[M]
R5824	D0AF331JA039	330 1/4W	[M]
R5825	D0AF331JA039	330 1/4W	[M]
R5826	D0AF331JA039	330 1/4W	[M]
R5827	ERDS2TJ823T	82K 1/4W	[M]
R5828	D0AE123JA048	12K 1/4W	[M]
R5829	D0AE223JA048	22K 1/4W	[M]
R5830	D0AE103JA048	10K 1/4W	[M]
R5831	ERDS2TJ332T	3.3K 1/4W	[M]
R5832	ERDS1FVJ2R7T	2.7 1/2W	[M]
R5833	ERDS1FVJ2R7T	2.7 1/2W	[M]
R5834	ERX1SZJR18P	0.18 1W	[M]
R5835	ERX1SZJR18P	0.18 1W	[M]
R5901	ERC12UGK335D	3.3M 1/2W	[M]
R5902	ERDS1FVJ4R7T	4.7 1/2W	[M]
R5903	D0AE472JA048	4.7K 1/4W	[M]
R5904	ERDS2TJ151T	150 1/4W	[M]
R5905	ERDS2TJ332T	3.3K 1/4W	[M]
R5906	D0AE103JA048	10K 1/4W	[M]
R5907	D0AE103JA048	10K 1/4W	[M]
R5908	ERDS2TJ821T	820 1/4W	[M]
R5911	ERDS2TJ151T	150 1/4W	[M]
R5912	D0AF100JA039	10 1/4W	[M]
R5913	D0AF100JA039	10 1/4W	[M]
R5914	D0AF180JA039	18 1/4W	[M]
R8011	ERJ2GEJ220X	22 2W	[M]
R8021	ERJ2GEJ103X	10K 2W	[M]
R8022	ERJ2GEJ103X	10K 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8023	ERJ2GEJ473X	47K 2W	[M]
R8041	ERJ2GEJ330X	33 2W	[M]
R8111	ERJ2GEJ223X	22K 2W	[M]
R8112	ERJ2GEJ223X	22K 2W	[M]
R8201	ERJ2GEJ222X	2.2K 2W	[M]
R8231	ERJ2GEJ103X	10K 2W	[M]
R8233	ERJ2GEJ153X	15K 2W	[M]
R8235	ERJ2GEJ822X	8.2K 2W	[M]
R8236	ERJ2GEJ822X	8.2K 2W	[M]
R8241	ERJ2GEJ223X	22K 2W	[M]
R8242	ERJ2GEJ752X	7.5K 2W	[M]
R8243	ERJ2GEJ103X	10K 2W	[M]
R8251	ERJ6GEYJ6R8V	6.8 1/10W	[M]
R8261	ERJ2GEJ823X	82K 2W	[M]
R8262	ERJ2GEJ472X	4.7K 2W	[M]
R8263	ERJ2GEJ823X	82K 2W	[M]
R8264	ERJ2GEJ472X	4.7K 2W	[M]
R8265	ERJ2GE0R00X	0 2W	[M]
R8311	ERJ2RHD242X	2.4K 2W	[M]
R8312	ERJ2RHD102X	1K 2W	[M]
R8313	ERJ2RHD243X	24K 2W	[M]
R8314	ERJ2GE0R00X	0 2W	[M]
R8315	ERJ2GEJ6R8X	6.8 2W	[M]
R8321	ERJ3RBD161V	160 3W	[M]
R8322	ERJ2RKD100X	10 2W	[M]
R8325	ERJ3RBD161V	160 3W	[M]
R8326	ERJ2GE0R00X	0 2W	[M]
R8331	ERJ3RBD161V	160 3W	[M]
R8332	ERJ2RKD100X	10 2W	[M]
R8335	ERJ3RED820V	82 3W	[M]
R8341	ERJ3RED820V	82 3W	[M]
R8401	ERJ2GEJ473X	47K 2W	[M]
R8402	ERJ2GEJ101X	100 2W	[M]
R8404	ERJ2GEJ101X	100 2W	[M]
R8407	ERJ2GEJ101X	100 2W	[M]
R8420	ERJ2GEJ222X	2.2K 2W	[M]
R8421	ERJ2GE0R00X	0 2W	[M]
R8501	ERJ2GE0R00X	0 2W	[M]
R8505	ERJ2GEJ222X	2.2K 2W	[M]
R8506	ERJ2GEJ152X	1.5K 2W	[M]
R8550	ERJ2GEJ752X	7.5K 2W	[M]
R8551	ERJ2GE0R00X	0 2W	[M]
R8552	ERJ2GEJ102X	1K 2W	[M]
R8553	ERJ2GEJ102X	1K 2W	[M]
R8554	ERJ2GEJ680X	68 2W	[M]
R8555	ERJ2GEJ2R2X	2.2 2W	[M]
R8556	ERJ3GEYJ560V	56 1/16W	[M]
R8557	ERJ3GEYJ510V	51 1/16W	[M]
R8558	ERJ2GEJ473X	47K 2W	[M]
R8559	ERJ2GEJ153X	15K 2W	[M]
R8560	ERJ2GEJ102X	1K 2W	[M]
R8561	ERJ2GE0R00X	0 2W	[M]
R8562	ERJ2GEJ102X	1K 2W	[M]
R8563	ERJ2GEJ102X	1K 2W	[M]
R8564	ERJ2GEJ220X	22 2W	[M]
R8565	ERJ2GEJ2R2X	2.2 2W	[M]
R8566	ERJ3GEYJ560V	56 1/16W	[M]
R8567	ERJ3GEYJ510V	51 1/16W	[M]
R8568	ERJ2GEJ473X	47K 2W	[M]
R8569	ERJ2GEJ123X	12K 2W	[M]
R8570	ERJ2GEJ104X	100K 2W	[M]
R8601	ERJ2GEJ102X	1K 2W	[M]
R8606	ERJ2GEJ104X	100K 2W	[M]
R8607	ERJ2GEJ103X	10K 2W	[M]
R8611	ERJ2GEJ101X	100 2W	[M]
R8621	ERJ2GEJ105X	1M 2W	[M]
R8622	ERJ2RHD271X	270 2W	[M]
K8002	ERJ2GE0R00X	CHIP JUMPER	[M]
K8003	ERJ2GE0R00X	CHIP JUMPER	[M]
K8007	ERJ2GE0R00X	CHIP JUMPER	[M]
K8008	ERJ2GE0R00X	CHIP JUMPER	[M]
K8031	ERJ2GE0R00X	CHIP JUMPER	[M]
K8106	ERJ3GEY0R00V	CHIP JUMPER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
K8421	ERJ3GEY0R00V	CHIP JUMPER	[M]
RX8011	D1H88204A024	CHIP RESISTOR	[M]
RX8012	D1H88204A024	CHIP RESISTOR	[M]
RX8013	D1H88204A024	CHIP RESISTOR	[M]
RX8014	D1H88204A024	CHIP RESISTOR	[M]
RX8015	D1H422020001	CHIP RESISTOR	[M]
RX8016	D1H88204A024	CHIP RESISTOR	[M]
RX8017	D1H88204A024	CHIP RESISTOR	[M]
RX8018	D1H88204A024	CHIP RESISTOR	[M]
RX8021	D1H410320002	CHIP RESISTOR	[M]
RX8031	D1H447220001	CHIP RESISTOR	[M]
RX8032	D1H447220001	CHIP RESISTOR	[M]
RX8401	D1H410120001	CHIP RESISTOR	[M]
RX8402	D1H410120001	CHIP RESISTOR	[M]
RX8501	D1H456020001	CHIP RESISTOR	[M]
RX8502	D1H85604A024	CHIP RESISTOR	[M]
RX8503	D1H456020001	CHIP RESISTOR	[M]
RX8504	D1H456020001	CHIP RESISTOR	[M]
RX8611	D1H447220001	CHIP RESISTOR	[M]
WA1	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA2	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA3	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA4	ERJ3GEY0R00V	CHIP JUMPER	[M]
P611	REX1216Y	3P WIRE	[M]
WR601	REXX0398	4P WIRE	[M]
WR1308A	RWJ0102190KK	2P (CASS OPEN-DECK)	[M]
WR1903	RWJ0102050KR	2P (MOTOR WIRE)	[M]
		CAPACITORS	
C11	F1D1E103A001	0.01 25V	[M]
C12	F2A1C101A234	100P 16V	[M]
C21	F1D1E103A001	0.01 25V	[M]
C22	F2A1C101A234	100P 16V	[M]
C601	ECJ1VC1H101K	100P 50V	[M]
C602	ECJ1VC1H101K	100P 50V	[M]
C603	F1H1H103A219	0.01 50V	[M]
C604	F2A0J470A245	47P 6.3V	[M]
C621	F2A1H220A234	22P 50V	[M]
C622	F2A1H220A234	22P 50V	[M]
C623	F2A1H220A234	22P 50V	[M]
C624	F2A1H220A234	22P 50V	[M]
C625	F1H1H103A219	0.01 50V	[M]
C626	ECJ1VC1H102J	1000P 50V	[M]
C627	F1H1H101A230	100P 50V	[M]
C628	F1H1H101A230	100P 50V	[M]
C629	ECJ1VB1A105K	1 10V	[M]
C630	F2A0J101A245	100P 6.3V	[M]
C631	ECJ1VC1H101K	100P 50V	[M]
C632	ECJ1VB1A105K	1 10V	[M]
C633	F2A0J101A245	100P 6.3V	[M]
C634	F1H1H102A219	1000P 50V	[M]
C638	ECJ1VB1A105K	1 10V	[M]
C657	ECJ1VB1A105K	1 10V	[M]
C1101	ECA1HAK010XB	1 50V	[M]
C1102	F1H1H471A219	470P 50V	[M]
C1103	ECA1CAK101XB	100 16V	[M]
C1104	ECJ1VB1C273K	0.027 16V	[M]
C1105	F1H1H471A219	470P 50V	[M]
C1106	ECA1HAK2R2XB	2.2 50V	[M]
C1107	F1H1H152A219	1500P 50V	[M]
C1108	ECA1CAK100XB	10 16V	[M]
C1109	ECA1HAK3R3XB	3.3 50V	[M]
C1110	F1H1H682A219	6800P 50V	[M]
C1121	F1H1H102A219	1000P 50V	[M]
C1122	F1H1H103A219	0.01 50V	[M]
C1123	ECJ1VB1H271K	270P 50V	[M]
C1201	ECA1HAK010XB	1 50V	[M]
C1202	F1H1H471A219	470P 50V	[M]
C1203	ECA1CAK101XB	100 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1204	ECJ1VB1C273K	0.027 16V	[M]
C1205	F1H1H471A219	470P 50V	[M]
C1206	ECA1HAK2R2XB	2.2 50V	[M]
C1207	F1H1H152A219	1500P 50V	[M]
C1208	ECA1CAK100XB	10 16V	[M]
C1209	ECA1HAK3R3XB	3.3 50V	[M]
C1210	F1H1H682A219	6800P 50V	[M]
C1221	F1H1H102A219	1000P 50V	[M]
C1222	F1H1H103A219	0.01 50V	[M]
C1223	ECJ1VB1H271K	270P 50V	[M]
C1301	ECA1HAK0R1XB	0.1 50V	[M]
C1302	F1H1C3330001	0.033 16V	[M]
C1303	F1H1C3330001	0.033 16V	[M]
C1304	ECA1HAK4R7XB	4.7 50V	[M]
C1305	ECA1CAK330XB	33 16V	[M]
C1307	ECA1AAK221XQ	220 10V	[M]
C1308	ECA1CAK220XB	22 16V	[M]
C1310	ECA1HAK0R1XB	0.1 50V	[M]
C1311	ECA1CAK470XB	47 16V	[M]
C1312	F1H1H332A013	3300P 50V	[M]
C1314	F1H1H222A013	2200P 50V	[M]
C1315	F1H1H222A013	2200P 50V	[M]
C1316	F1H1H102A219	1000P 50V	[M]
C1317	F1H1H102A219	1000P 50V	[M]
C1318	ECQV1H473JL3	0.047 50V	[M]
C1319	ECA1CAK101XB	100 16V	[M]
C1320	ECA1HAK010XB	1 50V	[M]
C1321	F0A2A472A019	4700P 100V	[M]
C1323	ECEA1HKN010B	1 50V	[M]
C1324	ECA1CAK470XB	47 16V	[M]
C1326	ECA1CAK100XB	10 16V	[M]
C1371	F1H1H103A219	0.01 50V	[M]
C2004	ECJ1VF1A105Z	1 10V	[M]
C2005	ECJ1VF1A105Z	1 10V	[M]
C2101	ECJ1VB1E473K	0.047 25V	[M]
C2102	ECJ2VB1H331K	330P 50V	[M]
C2103	ECA1CAK100XB	10 16V	[M]
C2104	F1H1H102A219	1000P 50V	[M]
C2105	ECA1CAK100XB	10 16V	[M]
C2106	ECJ1VC1H221J	220P 50V	[M]
C2107	ECA1CAK100XB	10 16V	[M]
C2108	F1H1H102A219	1000P 50V	[M]
C2109	ECA1CAK100XB	10 16V	[M]
C2110	F1H1H101A230	100P 50V	[M]
C2111	ECA1CAK100XB	10 16V	[M]
C2112	F1H1H101A230	100P 50V	[M]
C2113	ECA1CAK100XB	10 16V	[M]
C2114	F1H1H222A013	2200P 50V	[M]
C2115	ECJ1VB1C153K	0.015 16V	[M]
C2116	ECJ1VB1C153K	0.015 16V	[M]
C2117	F1H1A154A001	0.15 10V	[M]
C2118	F1H1A154A001	0.15 10V	[M]
C2119	ECA1CAK100XB	10 16V	[M]
C2120	ECA1HAK010XB	1 50V	[M]
C2122	F1H1H102A219	1000P 50V	[M]
C2126	F1H1H470A230	47P 50V	[M]
C2127	ECJ1VB1C273K	0.027 16V	[M]
C2128	ECA1CAK100XB	10 16V	[M]
C2129	F1H1H102A219	1000P 50V	[M]
C2130	ECA1CAK220XB	22 16V	[M]
C2131	ECA1HAK3R3XB	3.3 50V	[M]
C2132	F1H1H332A013	3300P 50V	[M]
C2201	ECJ1VB1E473K	0.047 25V	[M]
C2202	ECJ2VB1H331K	330P 50V	[M]
C2203	ECA1CAK100XB	10 16V	[M]
C2204	F1H1H102A219	1000P 50V	[M]
C2205	ECA1CAK100XB	10 16V	[M]
C2206	ECJ1VC1H221J	220P 50V	[M]
C2207	ECA1CAK100XB	10 16V	[M]
C2208	F1H1H102A219	1000P 50V	[M]
C2209	ECA1CAK100XB	10 16V	[M]
C2210	F1H1H101A230	100P 50V	[M]
C2211	ECA1CAK100XB	10 16V	[M]
C2212	F1H1H101A230	100P 50V	[M]
C2213	ECA1CAK100XB	10 16V	[M]
C2214	ECJ2VB1E223K	0.022 25V	[M]
C2215	F1H1H222A013	2200P 50V	[M]
C2216	ECJ1VB1C153K	0.015 16V	[M]
C2217	ECJ1VB1C153K	0.015 16V	[M]
C2218	F1H1A154A001	0.15 10V	[M]
C2219	F1H1A154A001	0.15 10V	[M]
C2220	ECA1CAK100XB	10 16V	[M]
C2221	ECA1HAK010XB	1 50V	[M]
C2223	F1H1H102A219	1000P 50V	[M]
C2227	F1H1H470A230	47P 50V	[M]
C2228	ECJ1VB1C273K	0.027 16V	[M]
C2229	ECA1CAK100XB	10 16V	[M]
C2230	F1H1H102A219	1000P 50V	[M]
C2231	ECA1CAK220XB	22 16V	[M]
C2232	ECA1HAK3R3XB	3.3 50V	[M]
C2233	F1H1H332A013	3300P 50V	[M]
C2235	F1H1H103A219	0.01 50V	[M]
C2237	ECA1HAK010XB	1 50V	[M]
C2801	F1H1H101A230	100P 50V	[M]
C2802	F1H1H101A230	100P 50V	[M]
C2803	F1H1H101A230	100P 50V	[M]
C2804	F1H1H101A230	100P 50V	[M]
C2805	F1H1H101A230	100P 50V	[M]
C2806	F1H1H101A230	100P 50V	[M]
C2810	F1H1H101A230	100P 50V	[M]
C2811	F1H1H101A230	100P 50V	[M]
C2812	F1H1H101A230	100P 50V	[M]
C2813	F1H1H471A219	470P 50V	[M]
C2814	F1H1H471A219	470P 50V	[M]
C2815	F1H1H471A219	470P 50V	[M]
C2816	F1H1H101A230	100P 50V	[M]
C2817	F1H1H101A230	100P 50V	[M]
C2818	F1H1H101A230	100P 50V	[M]
C2819	F1H1H101A230	100P 50V	[M]
C2820	F1H1H471A219	470P 50V	[M]
C2821	F1H1H103A219	0.01 50V	[M]
C2822	F1H1H471A219	470P 50V	[M]
C2823	F1H1H103A219	0.01 50V	[M]
C2824	ECA1AAK220XB	22 10V	[M]
C2825	F1H1H101A230	100P 50V	[M]
C2826	F1H1H101A230	100P 50V	[M]
C2827	F1H1H101A230	100P 50V	[M]
C2828	F1H1H101A230	100P 50V	[M]
C2829	F1H1H101A230	100P 50V	[M]
C2830	F1H1H101A230	100P 50V	[M]
C2831	ECJ2VB1E223K	0.022 25V	[M]
C2832	ECJ1VC1H221J	220P 50V	[M]
C2839	ECJ1VC1H220J	22P 50V	[M]
C2840	F1H1H1800001	18P 50V	[M]
C2841	ECA0JAK101XB	100 6.3V	[M]
C2842	F1H1C104A008	0.1 16V	[M]
C2843	ECA1AAM102XB	1000 10V	[M]
C2844	F1H1H101A230	100P 50V	[M]
C2845	ECA1HAK010XB	1 50V	[M]
C2846	ECA1HAK2R2XB	2.2 50V	[M]
C2847	F1H1H103A219	0.01 50V	[M]
C2848	ECA1AAK220XB	22 10V	[M]
C2849	EEUFC0J821B	820P 6.3V	[M]
C2850	F1J1H104A459	0.1 50V	[M]
C2851	ECA1EAM331XB	330 25V	[M]
C2852	EEUFC0J821B	820P 6.3V	[M]
C2853	F1J1H104A459	0.1 50V	[M]
C2854	ECJ1VF1A105Z	1 10V	[M]
C2855	ECA1EAM331XB	330 25V	[M]
C2856	ECA1CAK470XB	47 16V	[M]
C2857	ECA0JM471B	470 6.3V	[M]
C2858	F1J1H104A459	0.1 50V	[M]
C2859	ECA1CAK100XB	10 16V	[M]
C2860	ECA1AAK221XB	220 10V	[M]
C2861	F1J1H104A459	0.1 50V	[M]
C2862	ECA1CAK470XB	47 16V	[M]
C2863	ECA1CAM471XB	470 16V	[M]
C2864	F1J1H104A459	0.1 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2865	F1H1H102A219	1000P 50V	[M]
C2866	F1H1H102A219	1000P 50V	[M]
C2867	F1H1H101A230	100P 50V	[M]
C2868	F1H1H101A230	100P 50V	[M]
C2869	F1H1H101A230	100P 50V	[M]
C2871	F1H1H103A219	0.01 50V	[M]
C2872	F1J1H104A459	0.1 50V	[M]
C2873	ECEA0JKA220B	22 6.3V	[M]
C2874	ECJ1VF1A105Z	1 10V	[M]
C2875	ECJ1VF1A105Z	1 10V	[M]
C2876	ECJ1VF1A105Z	1 10V	[M]
C2878	F1H1H103A219	0.01 50V	[M]
C2879	ECEA0JKA220B	22 6.3V	[M]
C2880	F1J1H104A459	0.1 50V	[M]
C2881	ECA0JAM102XB	1000 6.3V	[M]
C2882	ECA0JAM102XB	1000 6.3V	[M]
C2883	ECA0JAM102XB	1000 6.3V	[M]
C2884	ECA0JAM102XB	1000 6.3V	[M]
C2885	ECA0JAM102XB	1000 6.3V	[M]
C2888	ECA1CAK330XB	33 16V	[M]
C2889	F1J1H104A459	0.1 50V	[M]
C2890	F1H1H101A230	100P 50V	[M]
C2891	ECA1CAK470XB	47 16V	[M]
C2892	ECA0JAK101XB	100 6.3V	[M]
C2893	ECA1AAK221XB	220 10V	[M]
C2894	ECA1HAK2R2XB	2.2 50V	[M]
C2895	F1H1H102A219	1000P 50V	[M]
C2896	F1H1H101A230	100P 50V	[M]
C2897	ECA1HAK4R7XB	4.7 50V	[M]
C2909	F1H1H101A230	100P 50V	[M]
C2910	ECJ1VC1H220J	22P 50V	[M]
C2911	ECJ1VB1H271K	270P 50V	[M]
C2912	F1H1H331A013	330P 50V	[M]
C2913	ECJ1VC1H220J	22P 50V	[M]
C2914	ECJ1VB1H271K	270P 50V	[M]
C2915	F1H1H331A013	330P 50V	[M]
C2916	ECJ1VC1H220J	22P 50V	[M]
C2917	ECJ1VB1H271K	270P 50V	[M]
C2918	F1H1H331A013	330P 50V	[M]
C2919	ECJ1VB1E473K	0.047 25V	[M]
C2920	ECJ1VB1E473K	0.047 25V	[M]
C2923	ECA1HAK4R7XB	4.7 50V	[M]
C2924	F1J1H104A459	0.1 50V	[M]
C2925	F1J1H104A459	0.1 50V	[M]
C2926	ECEA1AKA101B	100 10V	[M]
C2927	F1H1H470A230	47P 50V	[M]
C2928	F1H1H470A230	47P 50V	[M]
C2929	ECA1CAK100XB	10 16V	[M]
C2930	F1J1H104A459	0.1 50V	[M]
C2932	ECJ1VB1C823K	0.082 16V	[M]
C2933	ECJ1VB1C823K	0.082 16V	[M]
C2934	ECA1CAK100XB	10 16V	[M]
C2935	F1H1H103A219	0.01 50V	[M]
C2936	F1H1H103A219	0.01 50V	[M]
C2937	ECEA1HKN4R7B	4.7 50V	[M]
C2986	F1H1H101A230	100P 50V	[M]
C2988	F1H1H101A230	100P 50V	[M]
C2989	F1H1H101A230	100P 50V	[M]
C2994	ECJ1VC1H220J	22P 50V	[M]
C3000	ECJ1VC1H221J	220P 50V	[M]
C3001	ECA1CAK100XB	10 16V	[M]
C3002	ECA1HAK010XB	1 50V	[M]
C3003	F1H1H473A748	0.047 50V	[M]
C3004	ECJ2VB1E104K	0.1 25V	[M]
C3005	ECJ1VB1H473K	0.047 50V	[M]
C3006	ECA1HAK4R7XB	4.7 50V	[M]
C3007	ECJ1VC1H221J	220P 50V	[M]
C3008	ECJ1VC1H221J	220P 50V	[M]
C3009	ECA1HAK010XB	1 50V	[M]
C3010	ECA1HAK010XB	1 50V	[M]
C3011	ECA1CAK100XB	10 16V	[M]
C3012	ECA1CAK100XB	10 16V	[M]
C3013	ECA1HAKR68XB	0.68 50V	[M]
C3014	ECA1HAK010XB	1 50V	[M]

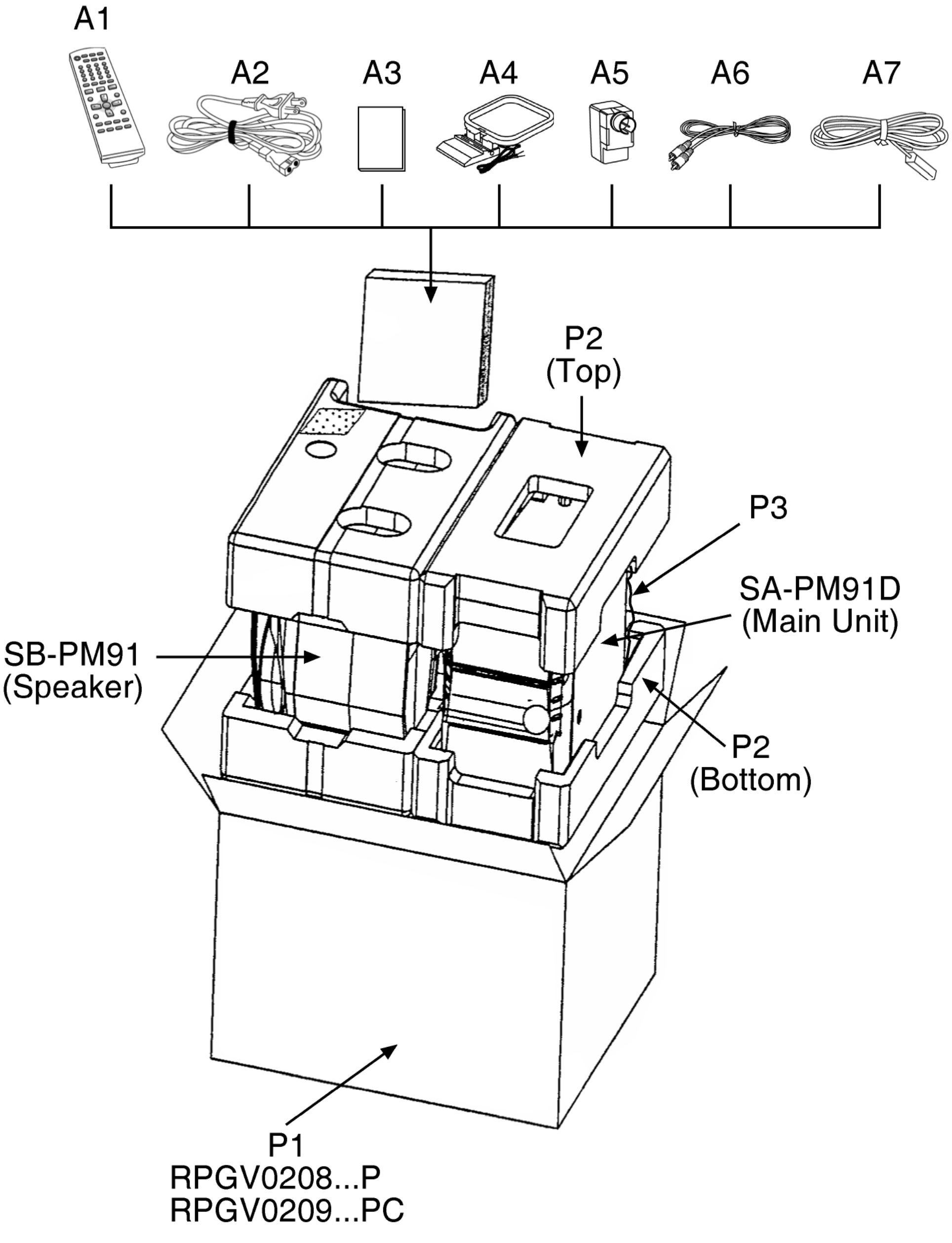
Ref. No.	Part No.	Part Name & Description	Remarks
C5101	F1D1H102A012	1000P 50V	[M]
C5102	F1E1H1030001	0.01 50V	[M]
C5103	F1D1C272A010	2700P 16V	[M]
C5104	ECA1HAK100XB	10 50V	[M]
C5105	F1D1H821A012	820P 50V	[M]
C5106	F1D1H150A015	15P 50V	[M]
C5107	F1D1H682A046	6800P 50V	[M]
C5108	F1D1H473A012	0.047 50V	[M]
C5151	F1D1H152A046	1500P 50V	[M]
C5152	F1D1C562A010	5600P 16V	[M]
C5153	ECA1HAKR22XB	0.22 50V	[M]
C5154	F1D1H821A012	820P 50V	[M]
C5155	F1D1H150A015	15P 50V	[M]
C5156	F1D1H682A046	6800P 50V	[M]
C5157	F1D1H473A012	0.047 50V	[M]
C5158	F1D1H1040002	0.1 50V	[M]
C5201	F1D1H102A012	1000P 50V	[M]
C5202	F1E1H1030001	0.01 50V	[M]
C5203	F1D1C272A010	2700P 16V	[M]
C5204	ECA1HAK100XB	10 50V	[M]
C5205	F1D1H821A012	820P 50V	[M]
C5206	F1D1H150A015	15P 50V	[M]
C5207	F1D1H682A046	6800P 50V	[M]
C5208	F1D1H473A012	0.047 50V	[M]
C5251	F1D1H152A046	1500P 50V	[M]
C5252	F1D1C562A010	5600P 16V	[M]
C5253	ECA1HAKR22XB	0.22 50V	[M]
C5254	F1D1H821A012	820P 50V	[M]
C5255	F1D1H150A015	15P 50V	[M]
C5256	F1D1H682A046	6800P 50V	[M]
C5257	F1D1H473A012	0.047 50V	[M]
C5258	F1D1H1040002	0.1 50V	[M]
C5801	ECQE2104KF3	0.1 250V	[M]
C5802	ECA1HM332E	3300 50V	[M]
C5803	ECA1HM332E	3300 50V	[M]
C5804	ECA1EAM332XE	3300 25V	[M]
C5805	F1B1H103A007	0.01 50V	[M]
C5806	ECA1CAK101XB	100 16V	[M]
C5807	ECA1CAK100XB	10 16V	[M]
C5808	F1B2H103A032	0.01 500V	[M]
C5809	ECA1HAK100XB	10 50V	[M]
C5810	ECA1CAK100XB	10 16V	[M]
C5811	ECA1CAK101XB	100 16V	[M]
C5812	F1B2H103A032	0.01 500V	[M]
C5813	ECA1CAK100XB	10 16V	[M]
C5814	F1B1H103A007	0.01 50V	[M]
C5817	F1E1H1030001	0.01 50V	[M]
C5819	F1B2H103A032	0.01 500V	[M]
C5820	F1D1H102A012	1000P 50V	[M]
C5821	ECA0JM471B	470 6.3V	[M]
C5901	ECA1HM101B	100 50V	[M]
C5902	ECA2AM101B	100 100V	[M]
C5903	F1B1H103A007	0.01 50V	[M]
C5904	ECA2AM100B	10 100V	[M]
C5905	ECA1HAM470XB	47 50V	[M]
C5906	ECQE2104KF3	0.1 250V	[M]
C5907	ECA1HAK4R7XB	4.7 50V	[M]
C5908	F1B1H103A007	0.01 50V	[M]
C5909	F1B1H103A007	0.01 50V	[M]
C5912	F2A1C1020029	1000P 16V	[M]
C5914	F1B1H103A007	0.01 50V	[M]
C5915	ECA1HAM470XB	47 50V	[M]
C5916	ECA1HAM470XB	47 50V	[M]
C5917	F1B1H103A007	0.01 50V	[M]
C8001	F2G0J101A066	100P 6.3V	[M]
C8002	F2G0G331A012	330P 4V	[M]
C8003	ECJ0EB1E222K	2200P 25V	[M]
C8004	ECJ0EF1C104Z	0.1 16V	[M]
C8005	ECJ0EF1C104Z	0.1 16V	[M]
C8006	ECJ0EF1C104Z	0.1 16V	[M]
C8007	ECJ0EF1C104Z	0.1 16V	[M]
C8008	ECJ0EF1C104Z	0.1 16V	[M]
C8009	ECJ0EF1C104Z	0.1 16V	[M]
C8010	ECJ0EF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8011	ECJ1VB0J105K	1 6.3V	[M]
C8012	ECJ0EF1C104Z	0.1 16V	[M]
C8013	ECJ0EF1C104Z	0.1 16V	[M]
C8014	ECJ0EF1C104Z	0.1 16V	[M]
C8015	ECJ1VB0J105K	1 6.3V	[M]
C8016	ECJ1VB0J105K	1 6.3V	[M]
C8017	ECJ0EF1C104Z	0.1 16V	[M]
C8018	ECJ0EF1C104Z	0.1 16V	[M]
C8019	ECJ1VB0J105K	1 6.3V	[M]
C8020	ECJ0EF1C104Z	0.1 16V	[M]
C8021	ECJ0EF1C104Z	0.1 16V	[M]
C8022	ECJ0EF1C104Z	0.1 16V	[M]
C8023	ECJ1VB0J105K	1 6.3V	[M]
C8024	ECJ1VB0J105K	1 6.3V	[M]
C8025	ECJ0EF1C104Z	0.1 16V	[M]
C8026	ECJ0EB1E222K	2200P 25V	[M]
C8027	ECJ0EF1C104Z	0.1 16V	[M]
C8028	ECJ1VB0J105K	1 6.3V	[M]
C8031	ECJ0EF1C104Z	0.1 16V	[M]
C8051	ECJ1VB0J105K	1 6.3V	[M]
C8052	ECJ0EF1C104Z	0.1 16V	[M]
C8053	ECJ0EC1H221J	220P 50V	[M]
C8054	ECJ1VB0J105K	1 6.3V	[M]
C8055	ECJ1VB0J105K	1 6.3V	[M]
C8056	ECJ0EF1C104Z	0.1 16V	[M]
C8057	ECJ0EB1E222K	2200P 25V	[M]
C8111	ECJ0EB1A104K	0.1 10V	[M]
C8112	ECJ1VB0J105K	1 6.3V	[M]
C8113	ECJ0EB1E471K	470P 25V	[M]
C8201	F2G0J101A031	100P 6.3V	[M]
C8202	F2G0J101A066	100P 6.3V	[M]
C8203	ECJ0EF1C104Z	0.1 16V	[M]
C8204	ECJ0EF1C104Z	0.1 16V	[M]
C8205	ECJ0EF1C104Z	0.1 16V	[M]
C8206	ECJ1VB0J105K	1 6.3V	[M]
C8207	F1H1C104A008	0.1 16V	[M]
C8208	ECJ0EF1C104Z	0.1 16V	[M]
C8211	ECJ0EB1A333K	0.033 10V	[M]
C8212	ECJ0EF1C104Z	0.1 16V	[M]
C8213	ECJ0EF1C104Z	0.1 16V	[M]
C8214	ECJ0EF1C104Z	0.1 16V	[M]
C8215	ECJ0EB1E562K	5600P 25V	[M]
C8216	ECJ0EB1C183K	0.018 16V	[M]
C8217	ECJ1VB0J105K	1 6.3V	[M]
C8218	ECJ1VB0J105K	1 6.3V	[M]
C8221	ECJ0EB1A104K	0.1 10V	[M]
C8222	ECJ0EB1A104K	0.1 10V	[M]
C8223	ECJ0EB1A104K	0.1 10V	[M]
C8224	ECJ0EB1A104K	0.1 10V	[M]
C8225	ECJ0EF1C104Z	0.1 16V	[M]
C8226	ECJ0EF1C104Z	0.1 16V	[M]
C8227	ECJ0EF1C104Z	0.1 16V	[M]
C8228	ECJ1VB0J105K	1 6.3V	[M]
C8229	ECJ1VB0J105K	1 6.3V	[M]
C8232	F1H1C104A008	0.1 16V	[M]
C8233	ECJ0EB1E472K	4700P 25V	[M]
C8234	ECJ0EF1C104Z	0.1 16V	[M]
C8235	ECJ0EB1H102K	1000P 50V	[M]
C8236	ECJ0EB1H102K	1000P 50V	[M]
C8237	ECJ0EB1H102K	1000P 50V	[M]
C8238	ECJ0EB1H821K	820P 50V	[M]
C8241	ECJ0EB1A104K	0.1 10V	[M]
C8242	ECJ0EB1A104K	0.1 10V	[M]
C8251	F2G0J221A065	220P 6.3V	[M]
C8252	F2G1C470A076	47P 16V	[M]
C8253	F2G1C220A037	22P 16V	[M]
C8254	ECJ0EF1C104Z	0.1 16V	[M]
C8255	ECJ0EF1C104Z	0.1 16V	[M]
C8256	ECJ0EF1C104Z	0.1 16V	[M]
C8257	ECJ0EF1C104Z	0.1 16V	[M]
C8261	ECJ0EF1C104Z	0.1 16V	[M]
C8262	ECJ0EF1C104Z	0.1 16V	[M]
C8301	F2G0J221A031	220P 6.3V	[M]
C8302	F2G0J330A031	33P 6.3V	[M]
C8303	ECJ0EF1C104Z	0.1 16V	[M]
C8304	ECJ1VB0J105K	1 6.3V	[M]
C8307	ECJ0EF1C104Z	0.1 16V	[M]
C8308	ECJ0EC1H150J	15P 50V	[M]
C8311	ECJ0EF1C104Z	0.1 16V	[M]
C8312	ECJ1VB0J105K	1 6.3V	[M]
C8421	F2G0J101A015	100P 6.3V	[M]
C8422	ECJ0EF1C104Z	0.1 16V	[M]
C8423	F2G0J330A015	33P 6.3V	[M]
C8424	ECJ0EF1C104Z	0.1 16V	[M]
C8426	ECJ0EF1C104Z	0.1 16V	[M]
C8427	ECJ0EF1C104Z	0.1 16V	[M]
C8428	ECJ0EF1C104Z	0.1 16V	[M]
C8501	F1K1A1060017	10 10V	[M]
C8502	ECJ0EF1C104Z	0.1 16V	[M]
C8503	ECJ0EF1C104Z	0.1 16V	[M]
C8504	ECJ0EF1C104Z	0.1 16V	[M]
C8505	ECJ0EC1H221J	220P 50V	[M]
C8506	ECJ0EC1H101J	100P 50V	[M]
C8550	F2G0J330A031	33P 6.3V	[M]
C8551	ECJ0EF1C104Z	0.1 16V	[M]
C8552	F2G1C100A072	10P 16V	[M]
C8553	F2G0J470A031	47P 6.3V	[M]
C8554	ECJ1VB0J105K	1 6.3V	[M]
C8561	ECJ0EF1C104Z	0.1 16V	[M]
C8562	F2G1C100A072	10P 16V	[M]
C8563	F2G0J470A031	47P 6.3V	[M]
C8564	ECJ1VB0J105K	1 6.3V	[M]
C8601	ECJ0EF1C104Z	0.1 16V	[M]
C8606	ECJ0EF1C104Z	0.1 16V	[M]
C8607	ECJ0EB0J224K	0.22 6.3V	[M]
C8611	ECJ0EF1C104Z	0.1 16V	[M]
C8621	ECJ0EC1H120J	12P 50V	[M]
C8622	ECJ0EC1H120J	12P 50V	[M]
C8651	ECJ0EF1C104Z	0.1 16V	[M]
C8652	ECJ0EF1C104Z	0.1 16V	[M]
C8691	ECJ0EF1C104Z	0.1 16V	[M]
C8695	ECJ0EF1C104Z	0.1 16V	[M]

26.5. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGV0208	PACKING CASE	[M]P
P1	RPGV0209	PACKING CASE	[M]PC
P2	RPNV0049	POLYFOAM	[M]
P3	RPHV0001-1	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	N2QAJB000136	REMOTE CONTROL	[M]
A1-1	RKK-HTR0051K	R/C BATTERY COVER	[M]
A2	K2CB2CB00006	AC CORD	[M] ⚠
A3	RQT7932-P	O/I BOOK (En)	[M]
A3	RQT7933-M	O/I BOOK (Sp)	[M]P
A3	RQT7934-C	O/I BOOK (Cf)	[M]PC
A4	N1DAAAA00001	AM LOOP ANTENNA	[M]
A5	K2RC021B0001	ANTENNA PLUG	[M]
A6	RJL1P016B15A	VIDEO CABLE	[M]
A7	RSA0007-L	FM ANTENNA WIRE	[M]

26.6. Packaging


A1
A2
A3
A4
A5
A6
A7
P2
(Top)
P3
SA-PM91D
(Main Unit)
SB-PM91
(Speaker)
P2
(Bottom)
P1
RPGV0208...P
RPGV0209...PC